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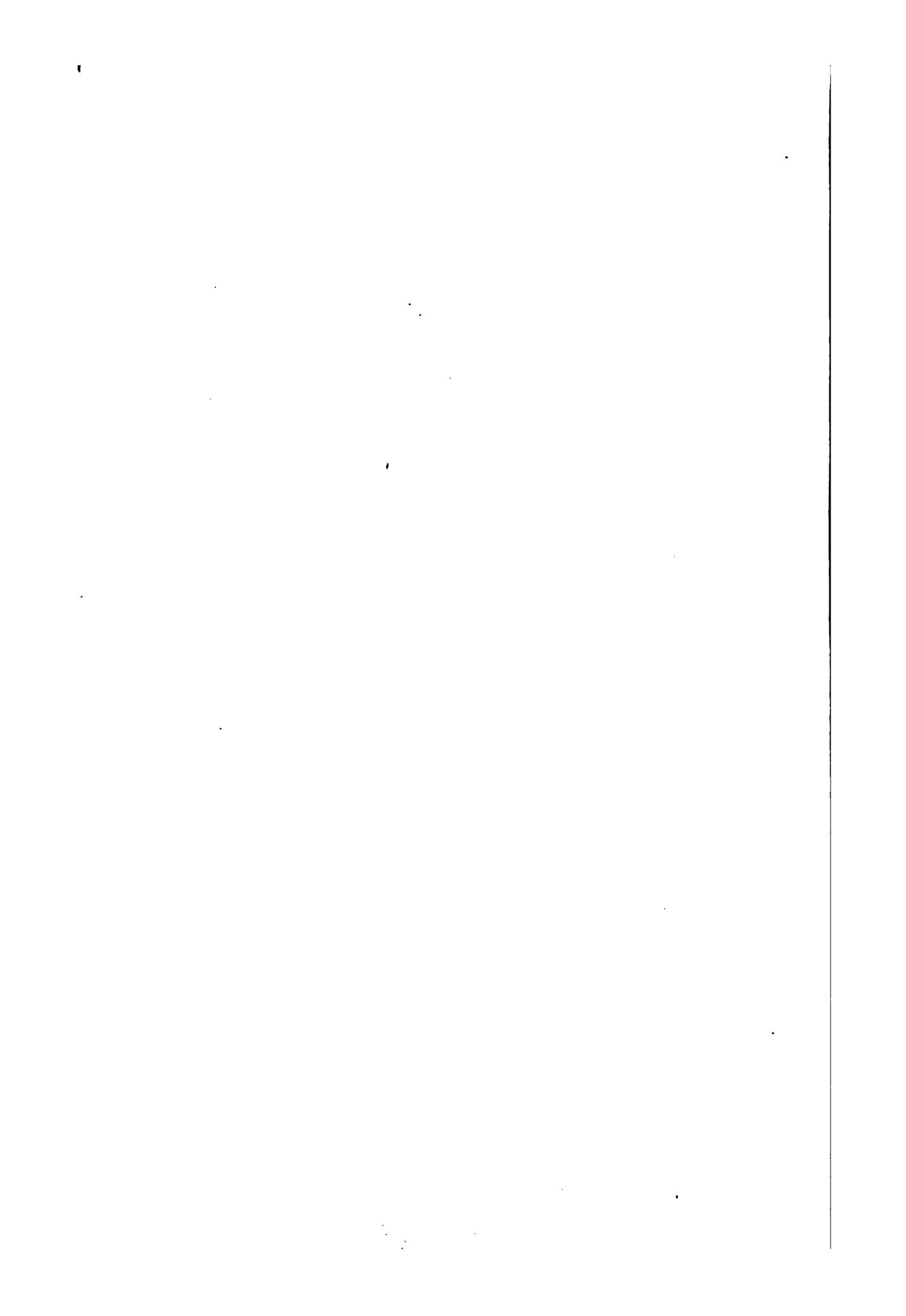


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VOCATIONAL EDUCATION

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ASSISTED BY
ARTHUR D. DEAN
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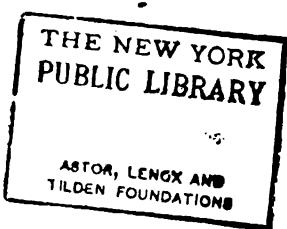
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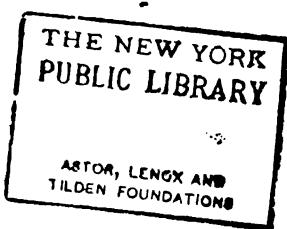
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VOCATIONAL EDUCATION

SEPTEMBER, 1913

A PLEA FOR PRACTICAL EDUCATION: EXCERPTS FROM RECENT ADDRESSES.

WILLIAM C. REDFIELD.

WE have so long taken pride as Americans in our system of free public education that it gives us a shock to discover that this scheme of instruction built up thru many decades and sustained at vast cost fails to secure one of its most needed results. We are not teaching our boys and girls to do any definite work in the world. They come out of our schools at about fourteen years of age with a certain amount of academic knowledge, but without practical training for the part they are to take in life.

As we say this, we seem to hear voices raised in protest:—"What, are there not manual training high schools and schools of domestic arts, and all sorts of mechanics' institutes?" Yes, these things exist and it is well that they do. We do not wish to decry their services, which are great. But when we grasp the need there is for training in the work of life and place beside this need such supply in quality and extent as comes from all the schools suggested, we reach a result that is not only saddening, but threatening. For, if all the boys and girls in but one of our smaller states were to seek now to learn that which would fit them for the daily work of self-support, there are not schools of the kind sufficient for them in all our whole land. And the children of the other forty-seven states would still go, as today they go, as a matter of fact, without the needed instruction. Nor

must it be thought that the need of such education is exaggerated. Many a father seeks for his son the training in mechanical work that he himself secured after many years of effort and after numerous costly mistakes. Many a mother hopes for her daughter a training which she herself did not receive, and realizes that the girl who is not trained to work of some kind must tread a dangerous road.

In many a factory the manager looks in vain for men with trained hands to do the work he is ready to place before them. Stop and think a moment! Where are our mechanics taught? In what school do they learn to run lathes and planers? Who teaches the art of operating a locomotive? Where may a poor boy get instruction in running an air-compressor?

We are doing indeed a little, so to speak, in educating at these things, but we have just begun to realize that education in these things is one of our serious national duties. In an eastern city some busy men and women gathered about eight hundred boys under the care of an institution meant to assist these boys upward in life. After a little it dawned upon the directors of the work that hardly one of the eight hundred boys knew how to do anything. There was energy galore, much of it misdirected, taking the form of malicious mischief; sometimes of petty misdemeanor. There was infinite waste of good human power; there was an easy entrance provided for the downward path, and nobody, it seemed, had ever taken thought to stop this waste of manliness, to make use of this energy, and to start the boys climbing upward instead of assisting them in sliding downward. So a good blacksmith was found, a shoemaker, and a carpenter, and strange to say these excellent mechanics were themselves so conscious of the need of instruction in their own trades, that for long weeks, each of them gave his services freely, after a hard day's work, to teach these boys. And, oh; the boys! They took to instruction as "ducks to water". The energy which had burst out in all sorts of unregulated ways was controlled and guided into the paths of peace. Busy hands and active brains settled down to constructive labor, and out of self-controlled effort grew moral elements that had hitherto been unseen. The boy who could do something well and took pride in doing it showed an unselfishness that had been unsuspected, and was found willing to help the less fortunate little chap at his side. One was proud that he could assist his father; another graduated from driving a grocer's wagon into an electrician, realizing with joy that he could now help support his mother and keep a sister longer at school.

The case is not unique; the same wasted powers, the same suppressed ethics, the same unused or misdirected energy are to be found in Buffalo, New York, in Boston and San Francisco, in New Orleans, and everywhere between.

CONSTRUCTIVE LABOR SHOULD REPLACE MISDIRECTED ENERGY.

Meanwhile, our national industries suffer, while our young people go to waste. We have entered within the last ten years into the world's markets, and those of us who know what this means realize that we are facing, in Germany, a competitor whose industrial soldiers are highly trained, while many of ours are but raw recruits. Our American inheritance of alertness of mind has helped us well thus far, and we have been able to make excellent progress in the great competition of nations. But the conflict grows sterner every day. We have come to know now that man for man, as compared with the industrial forces of Germany, our industrial workers lack training. We are carrying on our manufacturing more scientifically; our mechanical equipment is the best in the world; our vast national resources give us an enormous advantage; but until we add to them an army of trained workmen, skilled in the theory and practice of their respective trades, we shall not take the industrial position that belongs to us.

Think also what this means to a mechanic's family. His boy today enters the shop, at perhaps sixteen years of age, with his mind a perfect wilderness so far as trade instruction is concerned. By asking questions, and by using his eyes, he sees how things are done, but does not know whether or not they are done in the best way. There is no one to tell him. His foreman may not know, but it is all the boy can get. He finds perhaps a kindly machinist willing to give him some points; or a friendly steamfitter explains why things are done in such a way. He watches a skilled plumber "wipe a joint", and wishes he could do it as well, and asks about it. So little by little he picks up knowledge. He learns how to do things, but no one really tells him thoroly why they are so done. All this time his wages are kept low, because he cannot produce much that is of value, and at the same time his employer suffers, because of the low productiveness of the boy. For the same reason the customers of that factory are taxed higher because the employer must needs get from them the cost of maintaining a poor sort of mechanical kindergarten. At the end of ten years the boy is a pretty fair mechanic earning a man's wage.

EIGHT YEARS' GAIN IN EARNING CAPACITY.

Now let us suppose that that boy had at fourteen years of age gone to a thoroly good school where he was taught by skilled mechanics the theory and practice of his trade, while at the same time he was doing some really productive work on a true industrial basis. It is well within limits to say that at eighteen years he would be where he now is at twenty-six years. He would almost have saved eight years of his life, added to which he would have had a grasp of the reasons of things, and would know both what to do and why it was done.

It is hardly necessary to say that any manufacturer in his right senses, when employing men, would give preference to such well-taught boys; and it is equally unnecessary to say also that to advance these boys by eight years in their earning capacity would react most happily upon their homes. Industrial education therefore, not only trains, but saves boys and girls. It brings prosperity to our industries and peace to our families. Is there any other one thing that has greater public value today?

EFFICIENCY AND MORALS CLOSELY RELATED.

It may be well at this point to call attention to the fact that this question of training for vocational efficiency is closely related to that other question of personal moral ideals. I have been intensely interested in statements that have appeared in the public press in the course of the discussion of the causes of immorality, some alleging that low wages themselves are an incentive to vice and others, at the opposite extreme, saying that low wages have nothing to do with the vice question.

There seems to be a truth lying somewhere between these two extremes. Of course, lack of virtue is not a mathematical equation. The declaration that an insufficient wage is of itself a temptation to wrongdoing is in itself untrue. It is not a case of so few dollars and so much vice, or of so many more dollars and so much less vice. It is absurd to say that any mere difference in wages—of itself alone—is the cause of misdoing. The vast majority of women and men, however humble their means and however hard their privations, are wholesome and pure in life. The strength of character which most working girls show under difficult circumstances puts them among those who do the nation honor.

On the other hand, suppose a girl who has to work for self-support is so obliged to pinch to keep her body and soul together as to be deprived of all wholesome amusement or recreation. All work and no play—and very ill-paid work to boot—is as bad for Jill as it was for Jack and it makes life dull and dreary. Every normal instinct for society and pleasure is shut out by labor and poverty. Sometimes food insufficient in quantity and of poor quality is all that can be gotten, and sometimes too the poison of fatigue affects the health. Let this go on for months or years; is it not natural that a girl should be discouraged? When discouragement is kept up too long and the normal instincts of youth are crushed continually, is there no danger that the discouragement shall become despair?, and, once in the state of despair, is a glittering temptation, perhaps a devil disguised as an angel of light, easier or harder to meet?

Leave the actual figures out of consideration for a moment; is there not danger in anything which keeps working people—men or women—constantly distressed? Take the case of a girl who can find no normal outlet for that within her which cries out for expression; who wants all of the normal things a young girl ought to want, and yet cannot get them; is it not a fact that an abnormal means of expression, at first regarded with shrinking, may in time become tolerable, and, in the end, thru mere external pressure, be accepted? One must distinguish between direct and indirect causes or between causes which are real and conditions which make it possible for ill causes to succeed. Low wages are not the cause in this instance. Yet sometimes they are coincident with conditions which give bad causes chances to do evil work.

Every man and woman knows that, so to speak, there are impulses in him or her, some of which tend to lift up, some to drag down. Now the difference between \$5 weekly and \$50 weekly does not make these impulses, but certain of them get a chance on the \$50 weekly basis and certain others get a chance on the \$5 basis. What we want to do is to create conditions, partly by wages and partly by other things, to strengthen the environments which let the forces which lift up have play and to destroy the conditions under which the forces which drag down have play.

It does not alter the facts to say that many girls under hard conditions resist the downward drag. That does the girl honor because it shows her character is stronger than the drag. But the drag is there just the same and it may injure or destroy a weaker sister by

providing the conditions for her fall. What we want to do is to take away the drag. Partly this is to be accomplished by giving our boys and girls something to do. Too many go out into life and find it a blind alley. A young woman came to me for employment a few days ago. I asked her what she could do, and she answered "nothing". There was a place where the downward drag had a good chance. Neither her brains nor her hands had ever been taught to do practical work. Training in some vocational work has a distinct moral and mental value. It takes away the conditions under which the downward drag gets its best hold. There are many fathers and mothers whose lives would be happier if their children could find education in some definite work in life, so that they could not only assist their parents, but could keep their own bodies and souls together in decency.

POTENCY OF THE ECONOMIC MOTIVE.

It is to be noted, however, that the present interest in vocational training, just as the present trend toward saving effort and keeping the human mechanism in our factories in good working order, does not arise primarily from moral considerations or altruistic motives but from economic ones.¹ In actual practice in a mill it makes a difference in the financial results whether among a thousand men one hundred or three hundred or more are out of health. Any large amount of impaired vigor among his operatives is a condition whose continuance an intelligent manufacturer should know that he cannot afford. Still less can he afford to permit conditions to prevail in his works that cause ill health, for that injures all parties to industry. It pushes costs up, it pulls wages down; it enhances prices by diminishing both quality and quantity of output. Yet a recent letter from a business friend draws attention to the fact that in many of our factories thousands of dollars are annually lost thru unsanitary surroundings or poor lights.

We often care for minor things and ignore larger ones. We put time clocks in our factories to record the coming and going of our men and we note whether they are a few minutes early or late, and this is well. But we are often thoughtless of the more important questions—whether when they get there, they are in fit condition to do their work,

¹The following section is taken substantially from the author's "The New Industrial Day", Chapter VII, *The Rise in Human Values*; published by the Century Company, New York.

and some of us are careless whether the factory is so ordered that they can work at their best after they come.

CONDITIONS OF EFFICIENCY.

But, not merely in health alone are we coming to a right sense of human values. It is well to provide moral and healthful working conditions for the workmen we have, but it is quite as important to make good workmen out of boys that are growing up. The mechanic with a sound body and skilled hands will be worth much more to himself and others if he has also a trained mind. The appreciation in our thought of the value of men is leading us naturally to deal with them as things of worth, and we are beginning to try not only to prolong their lives, but to make life better worth living. As we are grasping the fact of loss from preventable diseases, so we are coming to know the loss from the lack of vocational training. In a groping way we have a sense of the vast waste from unskilled effort. Every superintendent managing skilled labor knows how hard it is to get a sufficient number of competent workers. The demand for what are called first class men exists in almost every factory and the supply is far from sufficient. This results in loss to the half-trained workman who is paid less than he would receive, if he were more skilled; in loss to the employer who does not get as good results from the cheaper workman as would come from the more highly trained and better paid man, and in loss to the consumer also who always suffers when any economic process is inefficient.

We are no longer satisfied with half-trained physicians. Engineers have to pass examinations for licenses, but manufacturers thruout the land have to be content with untaught men for there exists no sufficient means of teaching. If the young men in our country in large numbers sought instruction in manufacturing arts it would be found that there are not places in which they could all be taught. Our costly system of education is but little directed toward training boys and girls to do well some particular kind of work.

Let us look further briefly at this subject called vocational education to see what it means to the family, the factory and the public. It does not mean what is called manual training or teaching a little facility in some sort of work to a boy or girl. It is much more thoro than that. Many of our boys at fourteen are coming toward the point where self-

support will soon be necessary, but they do not know what to do nor have they been fitted to do anything. The world to them is a good deal of a haphazard chance. There seems no special place for them in it. They do not know how to use either brains or hands to help themselves. They eagerly enter a school which offers them a year of preparatory study, looking toward their taking a man's place in the industrial world; which follows that year by another in which they work half the time for wages in a regular factory and continue to study the other half of the time in school, with an opportunity for vacation work at pay if they wish it; and crowns this with a third similarly divided and advanced; and at last turns them out mechanics trained in some definite industrial work, knowing the why and wherefore of it and equipped to take a man's place in the battle of life. The boy's parents gladly see their son thus trained because he becomes an earner even while his education still progresses, and when his training is done is far better able to care for himself or for them than he would be without it. The boy thus equipped in mind and hand is a better citizen, a more productive industrial element, and a stronger man.

Within the factory walls the boys thus taught work almost a revolution. No more does the foreman spend his time teaching the incompetent. No more is he forced to put up with a so-called "handy-man" to do a mechanic's job. His force becomes one that not only knows, but knows why it knows. This force earns more pay but the wastes are less and the cost is less, since the output is greater or better or both.

RESULTING SOCIAL VALUES.

If the result of true vocational training were no more than has been said, it would often bring peace in the family and pleasantness in the factory, but because whatever promotes the efficiency of the man and saves waste in the mill is reflected in the cost of goods, the public also profits. To give a thoro vocational training to its young people is a sound financial investment on the part of the nation or state. Its normal outcome is a direct attack upon waste and upon high cost; it makes a saving in the expense of supervision, brings an advance in wages and in productiveness, causes a decrease in the relative burden charge upon each unit of industrial product, and finally and best of all creates a broader manhood, a better citizenship, and enlarged opportunities. Such an investment in human values is certain to bring prosperity in its train.

Even without the gain that is accruing from improving health and better training among our industrial workers, very much can be done by treating the present human values in our industries at their real worth.

If we look back to the beginnings of things we see that the rise in human values has been great and that it is progressive. It is still going on. It is a plant of slow, strong growth having its roots deep in human nature and in economic truth. It does not advance by leaps and bounds nor shoot up like a weed in a night. It is not the gift of one man to another but is a righteous evolution out of the very heart of things. It cannot be dragged upward with a rush as the result of administrative acts or political policy but must advance with steady and stately step with the increasing comprehension of economic science and the keener appreciation of the true relation between man and man.

SOCIETY MUST DEVELOP HUMAN VALUES.

This appreciation of human values in the worker leads normally to the *development* of those values: I wonder what our lawyers, ministers, or physicians would do if the schools in which they learn their professions were closed, if there were no staff of teachers to instruct them, and if each at the opening of his life's work had to pick up the knowledge of his profession here a bit there a bit, by experience, by mistakes, by questions, but without instruction. We should have lawyers and ministers and doctors, no doubt, but the highly trained men that fill these great professions would be wanting. Yet this very absence of definite teaching is the thing which presses upon the mechanic's heart when he longs for his boy to be better instructed than himself. There is almost no place where it can be fully done. True, here and there, in Cleveland, in Pittsburgh, in Boston, in Atlanta, in Wisconsin, and elsewhere, educators of light and leading have begun the work. Yet it is all too true that when the average boy leaves school at fourteen he has nothing definite in the world that he can do. He has had a certain amount of very useful academic training which I do not wish to minimize. Of practical knowledge, however, of how to do some good productive work, he has almost none at all. The boy knows it, his parents know it, and they all suffer, and you and I suffer with them for in our shops we keep crude kindergartens trying to teach the boys that have had no chance to learn. It is a rather sad procession, that of the untaught, into our shops where they meet busy foremen and

it might be truer to say that, generally speaking, there are neither cultural nor vocational courses as such. Instead of trying to differentiate between these two motives the faculty is endeavoring in the organization and presentation of the courses to recognize the unity of all education that is worthy, and they regard the central aim of that unity to be the fitting of the individual to become an efficient, uplifting influence in the state of Mississippi. The school knows no separation of vocational and cultural, but places all training for service on the same democratic basis. President Whitfield said in discussing this point, "To me it is all education."

This statement interested me when he made it, but I did not get its force until Dr. Whitfield told the story of his conversion to the newer ideals. His story was substantially as follows:

"During my long tenure as Superintendent of Schools of my State, I often visited communities where public schools had been maintained annually for more than forty years; more often than otherwise I found that the buildings in which the educational processes had been carried on during all these years were unsanitary and ugly; that the yards and general surroundings were not kept with any regard to health or to beauty. I failed to see in the homes of the people that improvement which, it seems to me, one would expect to find in homes for so long a time situated so near schools. To me, it seemed as if the school had had a blighting effect on the industry of the community; the lands year by year were becoming poorer; the tools were the simplest, and the farm processes the most primitive. I found it unfortunately true that the boys of initiative, those especially needed for leadership in their respective communities, left for the towns as soon as they could procure positions.

I came to the conclusion that social standards and civic ideals and general social conduct did not show the improvement that ought to be necessary results of so many years of the influence of public schools. The same general conditions prevailed in the country churches. After several years of experience in the study of our common schools at first hand, I decided that there was something radically wrong with their work. I had always been told that schooling was a preparation for living; I failed to see how these schools had made for the better life of the neighborhoods in which they were located."

President Whitfield believes that the adding of a few practical subjects to the time-honored studies of the schools will not solve the educational problems of the public schools. He insists that what is needed is a "radical reorganization of the whole school curriculum with

reference to the future home, social, industrial and civic life of the pupils," and he is attempting to lead the way in Mississippi by putting his theory into practice in his own school, which, especially thru its collegiate courses and its normal department, is training the young women who will become the teachers, the mothers, the homemakers and



FIG. 1. GYMNASIUM.

leaders in social life in all sections of the commonwealth. Thus the ideals of the next generation are being shaped in his school. This is the big idea behind the Mississippi Industrial Institute and College, and it is the means employed to put this big idea into practice that attracts the visitor to Columbus.

PHYSICAL WELLBEING.

The school places its first and perhaps its greatest emphasis on physical training. In the words of President Whitfield, "The character and destiny of any people are in a large measure shaped and determined by their health and physical strength. Happiness and economic efficiency cannot be vouchsafed to any people who disregard or pay scant attention to their physical welfare." Therefore a school that is to shape the



FIG. 2. ATHLETIC FIELD.

future of a state must give first attention to physical wellbeing. This is done at the Mississippi Industrial Institute and College (a) by regulating the diet of the girls; (They eat in a large dining and social hall to which is attached a modern institutional kitchen.) (b) by control of the sleeping rooms; (The girls live in dormitory buildings.)



FIG. 3. TREATMENT FOR SPINAL CURVATURE.

(c) by providing a well-equipped hospital, with physician and nurses; (d) by corrective work in the gymnasium; (e) by well-directed physical exercise, including games; and (f) by instruction in the sciences that give facts and laws relating to health.

The physical training department of the school has its headquarters in the attractive gymnasium building. Fig. 1. In this is a swimming pool 60 by 26 feet. But the chief feature of the instruction in this department is the open air work. The spacious grounds and the moderate weather during most of the school year afford unusual opportunities for games. The athletic field, Fig. 2, includes a running track, basket-ball courts, tennis courts, etc. Soccer football is considered a valuable game, especially for the frosty season, but basket-ball occupies the place of greatest prominence. The indoor work consists of Swedish gymnastics and folk dancing. Special corrective work, including treatment of spinal curvatures, Fig. 3, is a feature of the physical training work. The ends always kept in mind are general health, self-control, endurance and personal appearance. Since this comprehensive plan for developing the physical wellbeing of the girls has been put into operation the results have been remarkable.

HOME INDUSTRIES.

The second feature of the school which is given special emphasis is the work in home industries. The point of view is taken that a system

of education should not create material wants without providing the means of supplying these wants. To create a desire without at the same time giving the power to satisfy the desire is to educate for discontent, if not for crime. The Mississippi Industrial Institute and College is not willing to hold this point of view as a mere theory; it



FIG. 4. TAKING APART OLD HATS.

proposes to carry it out in practice. For example, the instructor in millinery, an expert practical milliner, who goes to New York City each year to get the latest styles, is not content to arouse the desires of girls with a display of New York's latest hats. As fast as she creates desires she proceeds at once to show how they may be satisfied, even by the girls who have only a very limited amount of spending money. Each girl in the millinery class provides herself with one or more old hats that have been worn for a season or two and have become soiled and faded. As a part of the class work these hats are taken apart, Fig. 4, and the braid is steamed and cleaned in the way that any girl can do it in her own home. No expensive equipment for this purpose is provided —only a large flatiron, a wet cloth and a whiskbroom. The ribbon is treated in a similar way; the flowers and leaves are wiped with gasoline and, if faded, are retinted with oil paint and gasoline. Plumes are treated in a similar way, tho the tinting of these is usually done under

the direction of the teacher of applied art. Under her direction also they study the styles and adapt them to their own needs, thus producing a satisfactory design. Then the wire frames are made over, covered, and soon a hat that is new and stylish, and suited to the girl who wears it is ready for the opening of the season. No new material, or very little has been used.



FIG. 5. DRESSMAKING.

Girls not only make their own hats in this way at very small expense while learning the art of millinery in the most practical way, but they also take orders for hats from other girls, from home folks, or from the town people. The school furnishes new materials at 10% above cost, but the school does not do business with the customers. This is done by the girls individually, tho they sometimes cooperate in filling orders.

The same principles are applied in the dressmaking, Fig. 5, where work of superior quality is being done. This work is strengthened by the practical course in drawing given by the teacher of drawing and painting. This course in drawing covers

- 1—Greek proportions of the human figure.
- 2—Blocking in the figure—straight lines.

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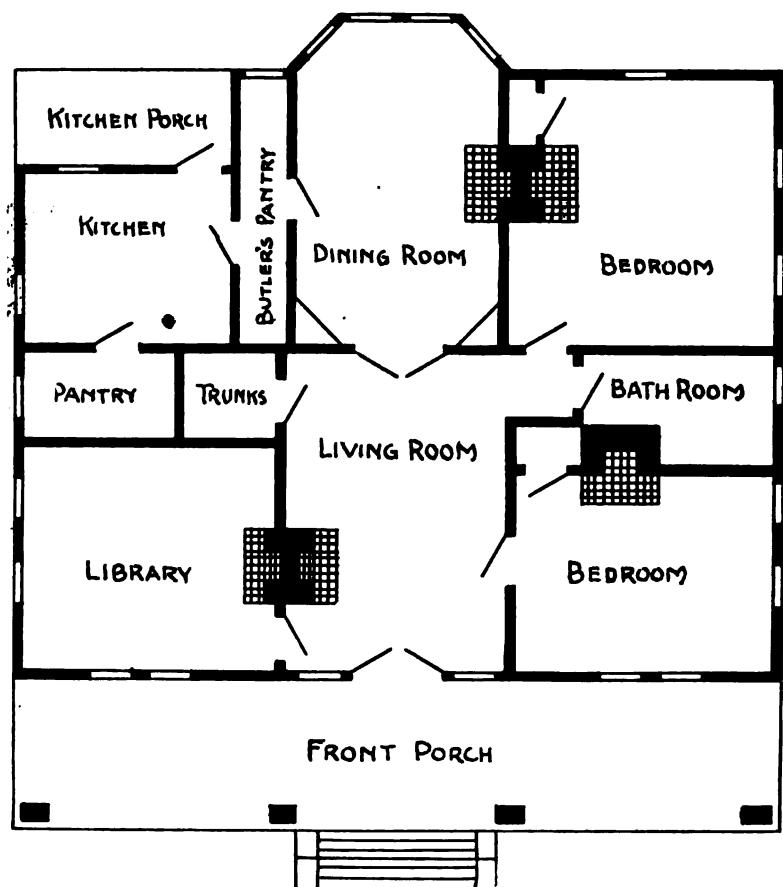


FIG. 6. PLAN OF COUNTRY HOME.

- 3—Blocking in the figure and then completing with curves.
 - 4—Parts of the figure—arms, construction lines for arms, length of arms, experiments to find where the elbow falls, head, etc.
 - 5—Clothed figure and pose drawing.
 - 6—Figures copied from magazines and from famous pictures.
- Sandwiched in between these are object drawing and tone studies. A third way in which the principle of providing the means of satisfying wants as well as creating them is found in the work in the home



FIG. 7. MODEL OF COUNTRY HOME.

science. Here cookery and dietetics are taught under the favorable conditions of a good equipment, qualified teachers and coordinate courses in chemistry, physics, botany, zoology, physiology and bacteriology.

I was particularly interested in the study of home buildings suited to Mississippi climate. The instructor in applied art had given out the problem: "to design a one-story inexpensive house suitable for a home in the country." About seventy-five plans had been submitted by the students. These were discussed and one finally selected, Fig. 6. This one was taken (a) because the dining room, being placed back of the reception room, makes possible a free circulation of air thru both, (b) because, the kitchen is separated from the other rooms of the house, and (c) because the exterior of the building, Fig. 7, represents the best type of home architecture which has been developed in Mississippi—a type that ought to be more generally adopted there. After the plan had been selected a model of the building was constructed, sent to the state fair, and is now being used as an object lesson in the school.

There has just been erected on the campus a residence which was designed and decorated by the students of the Industrial Arts Department.

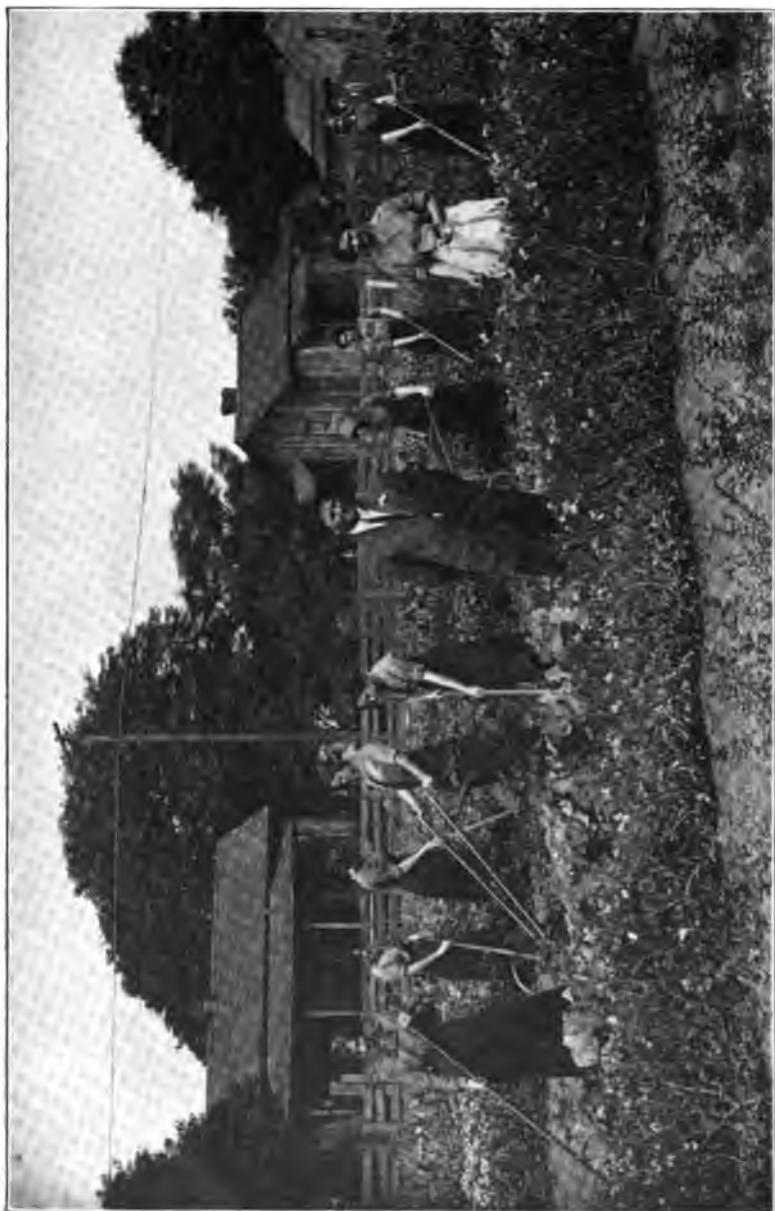


FIG. 8. CLASS IN AGRICULTURE AT WORK.

The lifting of water, lighting, laundry work, sawing wood, and churning are done by a gasoline engine, thus giving an illustration of how country homes may have the same conveniences and comforts as the city homes and how much of the drudgery of house work may be eliminated. The students in shifts live in this house, performing all the functions of housekeeping as these functions are taught in the lecture rooms and laboratories.



FIG. 9. A CLASS IN FLORICULTURE.

A fourth department of work which emphasizes this same idea of teaching how to supply wants at small expense as well as to raise ideals is the agricultural. A small classroom building with a greenhouse near and a garden lot of an acre or two beyond constitutes the equipment. It is not large, but it is already the center of an influence for good that is going out thru the state. President Whitfield points out that the old idea that cotton is the best crop to raise in Mississippi is keeping many a family poor. He says the state is suffering for more knowledge of scientific agriculture. His aim is to teach the principles which may be applied in farming on a small scale and to advocate a varied crop instead of cotton only. He is trying to demonstrate that one acre of ordinary Mississippi land, if rightly farmed, will support a family of five people,

whereas that same acre of land in cotton will yield no more than one hundred dollars, which is not enough to support one person. Under the guidance of an expert, practical field work in gardening and floriculture is done, Figs. 8 and 9, which supplements the study of soils and seeds and field crops, and serves as an extension of the laboratory and greenhouse practice work. A man from the Corn Belt can hardly realize the possibilities of an acre of Mississippi land until he sees the students



FIG. 10. MEMBERS OF THE "COOPERATIVE CLUB" IN THEIR CLUB ROOM.

planting seeds in February, and learns how many crops can be grown on the same plot of land before the following December.

COMMUNITY PROBLEMS.

A third feature of this school which contributes to the carrying out of the big idea behind it is the study of community and state problems and preparation to take part in working them out either as home-makers, citizens or teachers. Besides taking the usual college courses in history, civics, economics, philosophy and sociology students are encouraged to join the "Cooperative Club" which is making surveys of the social and economic conditions in the counties from which they come, Fig. 10. These surveys cover the following topics: Historical background, geography, population, occupations, city population, area, wealth, ownership and tenancy, farm indebtedness, domestic animals, crops, improvement of farms, cotton crop, improved public roads, public health, schools, illiteracy, churches, vice, crime, pauperism, agencies and plans for community uplift. Each of these topics is sub-divided in a syllabus prepared and

printed for the use of the Club. After such a survey of her own county and a comparison of results with those of her classmates from other counties any young woman is sure to be an intelligent "social unit" when, with her college degree or her normal diploma, she goes back to serve the county from which she came.

When I left Columbus the next day I felt well repaid for the visit because I realized that before my eyes there had been gradually forming a new vision of the service to a state and to individuals which may be rendered by an established institution of general culture when it once catches the spirit of the new vocational movement and sets for its goal the bigger social ends of education. As for the Mississippi Industrial Institute and College I would not give the impression that it is a realization of the vision in full perspective and detail, but its main outlines are clear, and in spots it is brilliant in detail. In some of its aspects it is still a strange mingling of the old and the new, the traditional and the modern, yet these terms fail utterly to express the idea because the end sought is still far from being attained. The adequate embodiment of the idea will be more than traditional and modern combined, it will be a new creation, a new type. This is surely one school that cannot be spoken of as a dead mechanism; it is thrilling with life—new life; it is a great reform in process; it is a dream coming true.

WE SHALL NEVER GAIN THE FULL CONFIDENCE OF THE BUSINESS WORLD AND THE WORKING CLASSES UNTIL WE CAN SHOW THAT EDUCATION IS PRACTICAL, THAT IS, THAT IT HAS AN ECONOMIC VALUE, WHILE IF WE ARE TO RETAIN THE CONFIDENCE OF THOSE WHO BELIEVE IN THE SPIRITUAL SIDE OF EDUCATION, WE MUST LIKEWISE HOLD FAST TO ITS HUMANISTIC IDEALS. VOCATIONAL EDUCATION IN ITS WIDEST SENSE MEANS THE WORKING OUT OF THE COMBINATION OF THESE IDEALS.

—Cloudesley Brereton in *Fortnightly Review*.

PROFESSOR DEWEY'S CRITICISM OF THE CHICAGO COMMERCIAL CLUB AND ITS VOCATIONAL EDUCATION BILL.

EDWIN G. COOLEY.

The article by Dr. John Dewey of Columbia University, entitled "An Undemocratic Proposal,"¹ seems to call for a reply. His article calls in question both the wisdom of the bill and the motives of those interested in promoting it. While Dr. Dewey has not named the Club as a party to the "reactionary" movement, what he says about "reactionary measures" and about "manufacturers anxious to secure the aid of the state in providing them with a somewhat better grade of laborers for them to exploit" and that "some employers of labor would doubtless rejoice to have schools supported by public taxation supply them with additional food for their mills" has no meaning in this criticism, unless it applies to them.

First, the Commercial Club of Chicago is a commercial club in name only, as it does not interest itself in commercial enterprises of any sort, altho its membership is almost wholly made up of commercial men. It has no club house, and its activities are confined to a few meetings a year for the discussion of public questions by prominent men, the last speaker being President Woodrow Wilson. Its committees strive to promote such public measures as—vocational education, better immigration laws, the beautifying of the public park system, and general plans for improving of the City of Chicago. It has spent nearly two hundred thousand dollars in the last named movement, sending a special commissioner to Europe to study city-planning there and employing an architect, the late Daniel Burnham, to superintend its investigations for city planning. It still occupies the top floor of the Railway Exchange Building in Chicago with an architect's office and a force engaged in this most important and public-spirited movement.

The interest of the Club in more practical education is of long standing. As early as 1884, it organized the Chicago Manual Training School at Michigan Avenue and 12th Street, carrying it on there until the school was turned over to the School of Education of the University of Chicago, of which Dr. Dewey was the head. For many years the

¹See "An Undemocratic Proposal," by John Dewey, *VOCATIONAL EDUCATION*, Vol. II, No. 5, May, 1913, p. 374.

Club devoted time and money to the support of special work in the evening schools of Chicago, purely for public good. The Club has acted in all its enterprises from the highest motives, always striving to promote the public welfare.

The plan proposed by the Commercial Club is an attempt to complete the present system of schools by providing a finishing school for the youth between fourteen and eighteen who are unable or unwilling to continue longer in the present elementary or secondary school. It aims at giving direct and practical assistance to young persons *in* or *intending to enter* all sorts of vocations—such as agriculture, industry, commerce, and home-making. It does not attempt to reorganize or reform present systems of schools, but to supplement them by providing a system of schools that will do for the ordinary vocations what we now do, by means of our high schools and universities, for a very small class in the professional and managerial positions—to supply, on the basis of the elementary school instruction, an application of science and art to the various occupations of men and women.

The persons affected by this legislation are almost entirely those between fourteen and eighteen, who have left the present elementary or secondary schools. While the plan will not be complete until we have a system of secondary vocational schools comparable with those of Germany, Austria, and Switzerland, the present need is to care for the class of youth between fourteen and eighteen who now leave our schools, two-thirds of them without completing the elementary school and fully one-half before finishing the sixth grade. It is proposed that such youth be compelled to attend vocational schools where practical instruction bearing on their life work will be given during the daytime for two hundred and forty hours per year, whenever and wherever the communities so desire.

The ultimate aim of these schools is character development and civic efficiency, gained thru the increase in the personal efficiency of the pupils. Joy in work, the result of efficiency in work, satisfaction in doing a good job—is an absolute essential to contentment, happiness, honesty, and self-respect. A people performing its daily work with the feeling that it is drudgery to be gotten thru with for the sake of some satisfaction to follow is doomed to disappointment, dissatisfaction, and degeneration. While there will always be much work of this sort due to misfits, inadequate preparation, and individual deficiencies, public education should strive to limit this amount by developing efficiency in every line and thereby developing self-respect and satisfaction in the efforts

we make while earning our daily bread. These vocational schools, therefore, are schools for character-building, schools for training citizens.

SPECIAL SCHOOLS FOR A SPECIAL PURPOSE.

As these schools are radically different from the ordinary ones in purpose, method, and scope of work, special arrangements are provided by the proposed bill for organizing and administering them. They can secure vocational efficiency only by the closest possible cooperation with the persons carrying on the vocations, the employer and the employee. As the vocation, rather than any subject or subjects, is the center of interest, persons must administer these schools who know the vocations from the stand-point of both employer and employee. The bill, therefore, provides for a state board and a local board, wherever there are vocational schools, both selected with this point in view.

The state board is to be composed of five persons, one of whom is the state superintendent of public instruction, *ex officio*, one is an employer of labor and one a skilled employee, one the dean of the agricultural department of the State University of Illinois, and one a trained engineer. They are to exercise general supervision over the vocational schools of the state, their most important function, perhaps, being to decide, on the basis of this supervision, whether the vocational schools organized under this act are carrying out their purpose and are entitled to the state grant of one-half of the running expenses. The board, with the exception of the state superintendent and the dean of the department of the University of Illinois, is to be selected by the governor of the state, whose nominations must be approved by the state senate.

In cities of 10,000 inhabitants and over, the local board appointed to organize and administer the individual schools will be composed of five members; the city superintendent of schools, two employers of labor and two skilled employees, appointed, with the exception of the city superintendent, as present boards of education are appointed, by the mayor or president of the board of trustees and confirmed by the city council or board of trustees—as the case may be. In country districts the members of this local board will be elected by the people at a special election. As these schools aim not only at technical efficiency, but at character building, they must include persons with educational experience in their boards of control and administration. For these reasons the bill provides for both men and women from practical life and educators in the boards of control.

The bill provides for a special tax to support these schools, levied by the local communities. The present school revenues are not sufficient for the present system of schools and should not be called upon to support the new system of vocational schools.

Dr. Dewey says that the plan of separate management "divides and duplicates the administrative educational machinery," and involves "a waste of funds and friction." While there will be a special board, this involves no material expense, and with the presence of the superintendent of schools on the board, no necessary friction. Experience in Wisconsin and Germany shows this. The expense of paying teachers and furnishing rooms and supplies will be the same in either case. All other schemes proposed, too, involve an additional board or committee to keep these schools efficient, in one case their position being advisory, in the other really administrative and practical.

Dr. Dewey says that "the scheme tends to paralyze one of the most vital movements now operating for the improvement of existing general education." As the plan involves no interference with the existing school systems, either as to funds or clientele, it is hard to understand this statement. No plans now in operation for improving the elementary schools will be touched by the proposed system of schools. The proposed plan assumes that the reforms in the elementary school will go on without let or hindrance, but that, in the meantime, we shall be permitted to deal with a class of boys and girls who are now neglected. We wish to offer them instruction that will analyze, interpret, and supplement their vocational experience, that will develop not merely dexterity but capacity, that will promote industrial and civic intelligence. This will not interfere with the development of the elementary school but rather assists in it. Wherever vocational schools are well organized in Germany, you will find the elementary schools in the most advanced condition, even tho under different boards of administration. Imperfections in the two types of school go together and are the result of undeveloped public opinion, rather than of difference in modes of administration. The paralysis now interferring with the development of general education is due to lack of practical ideals as to what and how, and is not due to their failure to deal directly with specialized forms of education. The ideals of the public elementary school should, in my opinion, remain broadly cultural, rather than vocational in any special sense of the term. Vocational efficiency will always be an important by-product of good cultural education, but it should continue to be a by-product, something not directly aimed at.

Dr. Dewey urges that "segregation will work disastrously for the true interests of the pupils who attend the so-called vocational schools." He points out that Dr. Kerschensteiner of Munich "insists upon all technical and trade work being taught in its general and social bearings." This is true, not only of the Munich schools, but of all these vocational schools in Germany and Switzerland. There is no difference of opinion there on this subject, but all agree that this can not be brought about by administrators or teachers who know nothing of the trades and other vocations. Efficient work here requires technically trained teachers and pedagogically trained technicians, supervised by persons who know the occupations into which meaning is to be introduced. No school of pedagogy yet known has succeeded in inventing a method that will enable a person to teach what he doesn't know.

Dr. Dewey says also that "those who believe in the continued separate existence of what they are pleased to call the 'lower classes,' or the 'laboring classes,' would naturally rejoice to have schools in which these classes would be segregated." The plan proposed makes no attempt to classify children, or determine who shall enter one or the other type of school. The vocational school begins its work where the other leaves off. It simply takes those who are not in any school and tries to help them. Like all efficient agencies, these schools must separate children into divisions on the basis of difference of purpose. In this they act like every other form of schools. We can not utterly disregard the advantage accruing from division of labor, even in schools. The fact that somewhere there is a different board of management will "cut no figure," except to make these schools more efficient. These boards will be chosen by the same agencies, from the same body of citizens, will be responsible to the same public opinion, and will be supported from the same public purse.

ARGUMENT FROM HISTORY.

The question simmers down to this: Our present system "*throws into the discard*" a large percentage of our young people who are in no less need of and have no less right to expect help from the state in preparing for their life activities as workers, as men and women, and as citizens, than those who enter the high school. We have introduced drawing and manual training in the past on the theory that they would solve the problem of preparing for practical life. They have both justified our action on general cultural grounds, but have failed ignomin-

iously in the effort to solve the problem of the fourteen-year-old boy and girl. They have been culturized and made ineffective so far as reaching the practical needs of these children is concerned. We are now asked by Dr. Dewey to turn over this new problem to the same schools, while recognizing that history has demonstrated their inability to solve it. This would mean a long period of experimentation with probable failure at the end. We should not postpone our efforts to rescue these young people from lives of inefficiency and, perhaps, of crime until the general schools have developed this practical ability. As practical men we must eschew philosophic unity and try to secure results by the best means at hand.

Finally, persons and commissions who have carefully studied the operation of such schools in Germany and elsewhere are almost a unit in insisting that the so-called separate administration is necessary. Dr. Nicholas Murray Butler, President of Columbia University, stated in an address before the Commercial Club of Chicago that this vocational preparation "had to be done by somebody for whom this task was the chief and dominant purpose." He stated, "All the leading men in the Ministries of Education in Prussia, Bavaria, and Saxony speak in the highest terms of this movement (vocational preparation); they are very proud of it, but they also tell us that they themselves could not have accomplished it."

The Commission appointed by the Legislature of the State of Wisconsin reported in favor of a separate organization for the vocational schools, and the State has established vocational schools in accordance with this recommendation.

Finally, the Commission appointed by the Swedish Government in 1907, after five years of investigation and reflection, has published the most complete report ever written on industrial education. In this report they provide for the same general types of schools included in the bill under discussion, and provide for placing these schools under the control of the Ministry of Commerce, Industry, and Maritime Affairs. They provide further for the appointment of local boards, responsible to this superior board. While I dislike to differ with Dr. Dewey on any question, I must insist that the argument from experience is against him in this case.

THE JUNIOR HIGH SCHOOL.

PAUL C. STETSON.

THE junior high school, as its name indicates, is a definite and constructive attempt to meet some of the pressing educational problems of the day. There is a wide-spread feeling that, valuable as the traditional high school has been and is, it has not succeeded in touching the lives of thousands of young men and women who for various reasons have left before or shortly after entering the high school. This is not an indictment against the high school but rather against the system which made possible this undeniable fact. The junior high school, reaching lower in the school work of the child, seeks by giving him a life interest to carry him safely over the break between grades and high school, and in the case of those who can never enter high school, to enable them to leave with a definite understanding of the tasks they face; to give them, as it were, a broader vision rather than to turn them loose with but a hazy notion of the vital problems of life to swell our list of unemployable and unskilled laborers.

The junior high school should consist of the seventh, eighth, ninth, and tenth grades so planned and administered that it will be woven into a compact whole. The teachers of a junior high school should be college graduates of the same standard demanded of the senior high school and should be on the same salary schedule. One of the most important elements in weaving the school into a unit is the correlation of teachers. Those having the eighth grade subjects should also teach in the tenth grade; those in the ninth grade should also work in the seventh. Another plan, where possible, is that of having the same teachers take the pupils thru the entire four years. This interplay of teachers is beneficial to the pupils and the instructors. To both it gives a larger horizon; to the teacher, because she has a perspective not common to most high school teachers. She knows the work of the seventh and eighth grades and knowing that, can be the better judge of the students' ability to accomplish the tasks of the ninth and tenth. To the pupil, it is beneficial because the teachers will create in the classroom a new atmosphere born of their broader and larger experience. The second plan is good in that the teachers come to know their students thoroly, are able to judge them honestly and skilfully. It also has its drawbacks

in that pupils, as their elders, like a change, and if a pupil has a weak teacher, he is doomed to four years of incompetent instruction. In a junior high school all promotions should be by subjects completed, not by grades. The advantages of this to teachers, pupils and principals are obvious. One of the most indefensible of modern practices is to make a boy or girl repeat an entire grade because he has failed in arithmetic or grammar.

Up to a certain age, pupils may very satisfactorily be grouped together and given the same general work. But when the boys and girls reach the age of adolescence, their individuality begins to assert itself; faintly, perhaps, and sometimes under our rigid systems in ways hardly apparent, but real, nevertheless. One can hardly imagine an intelligent person answering in the negative this question: "Here are three groups of students; some of them no doubt must stop school when finishing the eighth year or when sixteen, others when they finish the ninth or tenth grade, and many of them will be able to complete the four years in the high school and go to college—shall we give them all the same training and instruction?" Perhaps driven by necessity and perhaps not realizing that this condition exists, those at the head of our systems have by their general practice answered the foregoing question in the affirmative. The advocates of the junior high school, however, would give an emphatic "No" as the answer and straightway try to solve the problem.

A partial solution would seem to lie in the organization of three courses of study: the pre-vocational or elementary industrial course for those who must stop before entering the ninth grade; the vocational course for those who will never complete more than the tenth grade; and the general course for the more fortunate scholars who have before them the eight years of high school and college. In dealing with the first of these three groups, those who never enter the high school, one finds that they can, broadly speaking, be divided into two classes: those who drop out thru economic pressure, and those who stop because of indifference.

STUDYING THE CAUSES OF INDIFFERENCE.

In the school with which I am connected, an investigation of the reasons why pupils were not going to high school revealed the fact that fifty per cent could give no clear and satisfactory reasons for not continuing. Very common answers to the question "If you are not planning

to continue after completing your eighth grade, please state why?" were "Don't want to"; "Am not interested"; "Want to stay home"; "Can't have any fun going to school"; etc. Evidently, here were a class who should receive attention. The following year, the ninth grade was introduced. The presence of the older pupils, the discussions of the work they were doing, the constant intermingling of the students and the atmosphere of the school which seemed to "take it for granted" that all were interested had its effect. In twenty weeks, or one semester, the percentage who left school from preventable causes was decreased from 50 to 20 per cent. At the end of the year's experience, those who left because of indifference did not exceed 10 per cent. It was not a tangible, concrete, definite attempt which reached these indifferent pupils, rather it was the atmosphere created. Formerly, the high school was a thing apart, something to be "entered", an unknown quantity. Pupils were unable to realize what high school life was; what it offered or "did" for them. It represented to most of them an unknown experience. But when the ninth grade was close at hand, when at every turn, in the assemblies, the lunch rooms, at the parties, in the corridors, on the streets and playgrounds, they met and talked with those who were actually at work in the ninth grade, the high school life ceased to be a thing apart but became a part of their own experience, Fig. 1.

This point ought to be emphasized—the creating of interest by bringing the high school to the pupil, and thus making it a known, not an unknown thing. It is indefinite no doubt, but real nevertheless. More genuine and lasting interest can be aroused in the students by enabling them to discover for themselves what high school life is, than by dozens of talks and lectures. Adolescent children are gregarious, they follow each other. Let one of a group do a thing which brings with it a pleasurable result and the others follow. The indifference disappears.

Try as we may by any device, there will always be those pupils who feel the pressure of economic conditions. With the cost of living steadily rising, the family increasing, the younger children to be kept in school, there are many, who (some willingly, some unwillingly) must take their places and fight their way at a tender age. It is not a hard task to discover these pupils, and once found, it devolves upon the administrator of the school to endeavor to give them some preparation at least for the life which will be theirs. At present, it seems that this can best be done by a pre-vocational or elementary industrial course.



FIG. 1. THE LUNCH ROOM: ONE OF THE AGENCIES MAKING FOR UNITY. LUNCHES ARE SERVED AT COST.



FIG. 2. EVERY GIRL IN THIS CLASS HAS ELECTED TO TAKE SEWING.

The work in this course should be so planned that the student may enter high school upon completion, should he then find it possible. In the Junior High School at Grand Rapids, this course is not listed for very obvious reasons—parents and pupils both dislike to be labeled as it were. Parents, especially, are afraid of the words “industrial and vocational”. Realizing that they are unable to provide further training for the children, they are not ready to announce the fact to the world by placing their children in an “industrial course”. But the need is there and must be met. Without any advertisement of the fact, pupils can be divided into groups. Those who will be forced to drop out can be given commercial English in place of technical grammar; practical work in arithmetic, figuring accounts, and shop mathematics for example. The spelling can be made useful by giving words commonly met with and misspelled rather than those usually in spellers. The history should consist more of the account of the industrial growth of the country than of the causes of wars. The reading, taught either separately or with the English, offers a big field to the teacher.

In talking with a man who had worked for fifteen years as a pattern-maker, I asked him what he thought of industrial, practical training. He thought for a moment and then exclaimed: “It is good, fine, but for Heavens’ sake, *give them something to think about*. They will have plenty of manual work in their lives—*give them something to think about*”. I pressed him for an explanation and he then went on: “For fifteen years I worked as a pattern-maker. I started when fifteen years old and worked up. It was interesting at first, but soon became deadly monotonous. Men all around me were telling obscene stories or talking anarchy. Why? Because they had to do something with their minds or go crazy. One day I heard a preacher tell about Emerson. I bought a copy and it opened up a new world for me. I placed it on my bench and read while I worked. That is what I mean”. Reading properly taught offers a wonderful field for giving the pupils a broader vision, for “giving them something to think about”. A world of pleasure and profit can be opened up for them by the skillful handling of the reading lesson. At the Lewis Institute, I heard a class which illustrates what I mean. They were boys from a factory near by—part-time boys—and the instructor was reading to them in English, Sophocles’ “Antigone”. And they were all intensely interested.

In the industrial work, additional courses should be provided for the boys and the girls. At present in Grand Rapids, all pupils in the



FIG. 3. A CLASS IN FOOD VALUES.



FIG. 4. A GROUP OF BOYS WHO HAVE ELECTED MECHANICAL DRAWING AND SHOP-WORK. PROBABLY THEIR LAST YEAR IN SCHOOL.

grades are required to do the usual amount of manual training or domestic science. In addition to this is offered in the junior high school, for the girls, a thoroly practical course in sewing, Fig. 2. Cutting and fitting, use of the sewing machine, instruction in the art of buying economically and in the designing of garments, form a part of the course. When the girls finish, it is not expected they will be dress-makers but they will be good helpers and certainly better homemakers. The work in cooking is practical, Fig. 3. As much as is possible of food values is given. In addition to their course in cooking they are made intelligent purchasers of foods. In the art department, they are given designing as well as freehand drawing. Color schemes and harmony are taught. While not distinctly vocational in a narrow sense of the word, still the girls upon leaving school have a sense of the importance of intelligent homemaking which is certainly of definite economic value. Many of the girls who have been compelled to go to work have found that their knowledge of accounts, their ability to figure rapidly and accurately, and their general knowledge of textiles, have given them a great advantage over those who had simply the traditional training. We feel we have given them a start at least.

For the boys who cannot continue longer we offer special shop training, Fig. 4. Mechanical drawing and machine work in wood are proving popular and helpful. They are taught to use accurately and somewhat skilfully the planer, the jointer, the rip-saw, the band-saw, the jig-saw, and the universal saw, Fig. 5. This is in no sense a trade training but it is designed first to enable the boys to find themselves and secondly to make them good helpers. These boys seldom remain at the end of a machine pulling out boards. They know their own capabilities too well. To many of the boys, the printing trade appeals. For them we have a printing shop in which they quickly discover whether or not they have any aptitude for that craft. Several boys who took that work and have been compelled to leave school have found positions and are well on the way to become efficient journeymen.

After all, it is not much we can do for these boys and girls but at the very least, it would seem, we can so adjust our educational machinery that we can give them and us some idea of their abilities and so enable them, upon leaving, to be headed in the right direction. Later, perhaps, the continuation school, the evening school, or the trade school will take them and complete what we have started.



FIG. 5. ELECTIVE SHOPWORK. THE LAST SCHOOL YEAR FOR MOST OF THESE BOYS.



FIG. 6. ELECTIVE CLASS IN FREEHAND DRAWING.

FLEXIBILITY OF ORGANIZATIONS ESSENTIAL.

Undoubtedly, there are many pupils who leave high school before completing the tenth grade because they cannot see a definite, concrete gain to them if they stay the full four years. For them, the three-year commercial course which aims to offer an opportunity to discover their aptitude for the work, and which actually will prepare for office positions, is especially valuable. The commercial course accomplishes two things. In the first place, it enables the pupils to remain in school until the completion of the tenth grade by having something definite to offer them at the close of it; and in the second place, it frequently happens that the students become so interested in their work that they stay the entire four years. The commercial work, of course, should be so planned as to enable the pupil if he so desires, to complete the regular four years in high school. This, of course, should be made an elective at the beginning of the eighth grade.

Even after deducting from the school body those who must or do leave early, one always finds that the great bulk of a school need and want the general course of study. To them, however, the junior high school offers many advantages because of its superior equipment and organization. Operated entirely on the departmental plan, the student grows accustomed to a certain measure of independence. A large percentage entering high school fail because they are actually lost at first.

Latin, German, freehand and mechanical drawing, are optional studies in the general course, Fig. 6. This course does not differ materially from the traditional work except in one particular; the work is made more intensive; useless matter is more readily culled out and school life is made more inspiring and more profitable.

It would seem if this work is to be undertaken, that certain measures should follow as a matter of course. The first of these is the matter of vocational guidance. The work is important and it does not make much difference whether one uses the formal cut and dried theme method or the more inspirational, individual teacher method. In other words, in this case, the result is the important thing. The adolescent scholar must be given some proper life valuation which will carry him safely over the dangerous three or four years to come. In the Junior High School in Grand Rapids, both methods are in use. It is hard even to judge of the results of such work. I simply want to emphasize this point: the work must be done, and any method thru which it is accomplished is worthy.

A second measure of importance is the creating of an employment bureau. The value of this to the groups of pupils who must go to work, to the teacher who would follow his scholars, to the employer, and to the school system by gaining for it the interest and respect of pupils and employers, is hard to over-estimate. The organization of an employment bureau is a subject big enough for an article in itself.

The third measure of importance to the junior high school is the continuation school, either day or evening, or both. At present in Grand Rapids, we have both. Just a word as to its importance. If some pupils must go to work and they will, the continuation school offers an opportunity to keep in touch with them. To the pupil it spells success. To the system, it is as invaluable as the employment bureau and perhaps does more direct good. The continuation school needs no advocates. These three measures, vocational guidance, employment bureaus, and the continuation school, strengthening and rendering more efficient the work, are an important and necessary part of the system.

To summarize briefly, then, the junior high school, made a unit thru the organization of its various activities, athletics, school parties, debating societies, musical organizations, and thru the interplay of teachers, may become a dynamic force in the life of its pupils, making more real and vital to them their school life. The advantages which such a school offers thru its departmental system, its specially trained teachers, and the further fact that during the adolescent period the students are separated from both the smaller pupils and the more mature pupils of the senior high school, are so obvious as to need only a mention. It is the belief of many that the junior high school will rapidly become an important and permanent part of the modern school system and a potent factor in solving some, at least, of its perplexing educational problems.

INDEED THE FIRST GREAT SECRET OF A LIFE THAT PROCEEDS RHYTHMICALLY AND SERENELY TOWARD THE END IS THAT OF BEING DEVOUTLY IN LOVE WITH THE CHOSEN WORK. ASSIST THE BOY TO FIND AT LENGTH SUCH A PLACE AND HIS SUCCESS IN THE CAREER IS PRACTICALLY ASSURED.

—William A. McKeever.

VOCATIONAL WORK CONDUCTED BY THE WOMEN'S EDUCATIONAL AND INDUSTRIAL UNION, BOSTON.

ETHEL M. JOHNSON.

VOCACTIONAL work for women is a recent development. It is only fourteen years since the first trade school for girls was organized in America. It is barely a decade since the first technical college for women was established in this country. The present-day leaders in the movement are still spoken of as pioneers. But the work has already passed the experimental stage, and its success is attested by the constantly increasing demand for trained women in the business field. In the period from 1890 to 1900 the number of women engaged in skilled employments had increased nearly one hundred per cent.

Technical schools for women have been started in a number of cities. Vocational courses for girls are being added to the curriculum of many high schools and colleges. A tentative survey of opportunities for professional training for women in Boston and vicinity, made in the fall of 1912, showed eighty institutions offering such vocational work, and thirty-four distinct groups of occupations ranging all the way from accountancy to theology. Vocational counselling is being introduced in many of the schools. Four placement bureaus to study new fields for college women and to advise undergraduates have recently been established.

To this work of vocational education and vocational guidance The Women's Educational and Industrial Union has made a useful contribution. At the time the Union was organized in 1877 there was little in the way of occupational training for women apart from that offered in normal and commercial schools. Perhaps it is too much to ascribe to the Union's founders a prevision of the need and possibilities for broader vocational work. But the object they proposed, "the social, educational, and industrial advancement of women", admits of liberal interpretation. And the classes that date from the beginning of the Union's history soon assumed a strongly vocational bent. The first were purely cultural, devoted to distinctly feminine accomplishments, languages, literature, and art. But these in a short time were displaced by commercial and industrial classes which in their turn were



FIG. 1. CHILDREN'S CLOTHING SHOP.

superseded by the evolution of definite trade courses. In 1881 a class in stenography and typewriting was held. By 1884 classes in millinery, dressmaking, and plain sewing had been added. The committee in charge express their pleasure at the progress made because they "believe so thoroly in the importance of industrial education and are so desirous

of aiding those women and girls who are eager to better equip themselves for earning their own support".

A definite step was taken in 1905 when the trade school shops were organized in cooperation with the newly established trade school for girls. These shops were two in number—handwork and millinery, and were planned to afford a second year of training under actual business conditions with normal pay to graduates from the trade school thus enabling the girls to enter the industrial field at a living wage. A third shop was added in 1910. They are now the

FIG. 2. DRESS DESIGNED AND MADE IN CHILDREN'S CLOTHING SHOP FOR A CUSTOMER.

millinery, dressmaking, and children's clothing.

In Figs. 1, 2, and 3 are shown a group of workers in the children's clothing shop and two of the models made by them. Here under the direction of a shop manager are constructed dainty garments requiring fine sewing, smocking, and the artistic touches which make for distinctive work. Students from the different trade schools for girls in the state are now received on a part-time system which enables them to combine business experience with their school training.

In 1897 a school of housekeeping was started with the three-fold purpose: "to train women to keep house; to train employees to do housework; and to serve as an experiment station in home economics". The following year a professional course for college graduates was added fitting for positions in institutional management. Four years later the school with its teaching staff was transferred to the newly founded Simmons College and formed the basis for the Department of Household Economics.



SCHOOL OF SALESMANSHIP.

An important extension in vocational training was made in 1905 when the school of salesmanship was opened. This was the first attempt in this country and so far as known in any country to make salesmanship a more desirable occupation for women with adequate wages and opportunity for advancement by training salesgirls for efficient work. See Fig. 4. The school is conducted by the Union in cooperation with several large department stores in this city. The Union provides the instruction, and the stores furnish the pupils, sending a group of their salesgirls five forenoons a week and paying them regular wages while learning.

Among the subjects taught are trade arithmetic, English, economics, textiles, color and design, and commercial geography. A special feature of the instruction are the demonstration sales to illustrate the principles of good salesmanship. The schedule on page 44 outlines the daily work in the three months' course.

So successful has the course proved that similar courses have been started by business firms with the Union's assistance in various parts of the country: Hartford, Boston, Cleveland, Cincinnati, Kalamazoo (Michigan), and San Francisco.

To meet the demand for teachers of salesmanship and educational directors, a normal class was added to the school in 1909. College women, normal school graduates, and experienced teachers are admitted to the class. Courses in education, applied psychology, economics, textiles, and the regular subjects given in the salesmanship school are included as shown in the hour plan on page 46. A considerable amount of practice teaching is required, part of which is supplied by the salesmanship school. Actual work in some of the cooperating stores



FIG. 3. CHILD'S DRESS AND CAP, DESIGNED, MADE, AND FITTED TO DOLL IN CHILDREN'S CLOTHING SHOP.

SALESMANSHIP COURSES.

COURSES FOR SALESWOMEN.

	Tuesday	Wednesday	Thursday	Friday	Saturday
8:30	Arithmetic	Arithmetic	English	Arithmetic	Sale Slip Practice
9:30	Notes on Lessons	Notes	Notes	Notes	Notes
9:30 10:30	Textiles	Economics	Color and Design	Hygiene	Color and Design
10:30	Review	Demonstration	Lecture	Textiles or Commercial Geography	Salesmanship
11:00	Physical Education				

is another requirement; and at least one day a week together with the Christmas and Easter vacation periods is devoted to this work.

A six weeks' course in Economics of Industry offered by Simmons College during the winter is open to the salesmanship teachers. Factories, mills, and schools are visited in connection with the above courses.

Especially striking is the attitude that public school officials are taking toward the work. Instruction in salesmanship based on the Union methods and given by teachers trained at the Union has been introduced into some schools in Buffalo, Kalamazoo, Cincinnati, and Boston. Requests have recently been received for plans for organizing work with the public schools of Milwaukee and Los Angeles. But the most encouraging result is given in a recent comparison made of the wages and rate of advancement between graduates of the school and untrained salesgirls which showed that there is a strong advantage in favor of the trained woman.

In 1910 the department of vocational training was organized and the following year in connection with Simmons College normal courses for trade school teachers and supervisors were opened. This action was taken in recognition of the need for trade school directors who have had practical business training. The courses cover one year and are open to women of ability and experience. Part of the academic work is given at Simmons College. The Union's shops are utilized as laboratories for practice and teaching. An outline of the subjects pursued is shown in the schedule on page 47.

This is only a definite extension of a form of graduate training that the Union has for a number of years offered to educated women. All of the industrial departments—the shops, the lunch rooms, the food, and handwork departments, are used to give practical training to women who are fitting themselves for institutional work or the conduct of business. These opportunities have been extended largely to students of household economics and institutional management at Simmons College. With the present year clerical practice will be offered for secretarial students.

The department of research (organized in 1905) offers training for college women who wish to prepare themselves for social economic work. The investigations conducted by the department are accepted as part of the work counting toward a masters degree at Wellesley, Simmons, Radcliffe, and Tufts Colleges, and at the Massachusetts

NORMAL COURSE. SALESMANSHIP TEACHERS.		Monday	Tuesday	Wednesday	Thursday	Friday
8:30 to 11:30	Selling in Textiles Salesmanship Economics	Observation, Theory and Practice of Teaching of the following Subjects in the Salesmanship School:	Commercial Geography English Arithmetic	Hygiene Color and Design		
11:30 to 12:30		Conference with Director on Morning's Work.				
1:30 to 5:30	Department Stores	Applied Psychology Education	Textiles	Applied Psychology Education	Textiles	

NORMAL COURSE.

VOCATIONAL SCHOOL TEACHERS.

FIRST SIX WEEKS. FALL TERM.

Monday	Tuesday	Wednesday	Thursday	Friday
Textiles	Principles of Sewing and Dressmaking	At Simmons College Textiles	Principles of Sewing and Dressmaking	Textiles Sewing Dressmaking
Practice Work at Union Shops	Practice Work at Union	Practice Work at Union	Practice Work at Union	Practice Work at Union

Two students have special lessons in Cooking at Simmons College.

SECOND SIX WEEKS. FALL TERM.

All work at Simmons College.

Monday	Tuesday	Wednesday	Thursday	Friday
Textiles Design A	Design A Two periods	Textiles	Design A Two periods	Textiles
Education A Economics A Accounts A				

TWENTY-FOUR WEEKS. WINTER AND SPRING TERM.

1. Continuation of Simmons College courses for certain students.
2. Continuation of practice work in the Union Shops.
3. Observation and work in outside business places.
4. Observation and practice teaching in trade schools.
5. Reports and discussions on these shops and schools.
6. General summary of the year's work.



FIG. 4. SALESMANSHIP CLASS—DEMONSTRATION SALE.

Institute of Technology. The training afforded prepares for such positions as social workers, special investigators, inspectors, and field workers for state and federal labor bureaus. Several former students are now in the government service.

Another side of the Union's vocational work is represented by the appointment bureau which is conducting a study of non-teaching occupations for college women. The work of the bureau is two-fold—the placement of trained women in business positions, and the vocational counselling of undergraduates. In connection with this work a series of conferences on "Professional Opportunities for Women" have been conducted. At these meetings, which are open to the public, opportunities in special forms of work were presented by women who have made a success in those fields.

PUBLICATIONS.

A number of publications on vocational subjects have been issued by the Union. "Vocations for the Trained Woman" in the series "Studies in the Economic Relations of Women" is a compilation of articles by experts on the conditions and openings in various non-teaching occupations. The Vocation Bulletins issued by the appointment bureau summarize in concise form the results of investigations in new fields of work. "Organizing Charity", "Publishing House Work", and "Poultry Raising" are some of the subjects treated. Reading lists on special occupations, and on institutions offering training, are prepared by the library and sent to women's colleges and vocational counsellors. Among these lists are references on journalism, bacteriology, medical social service, and landscape architecture as professions for women.

The Union's development has shown a steadily increasing emphasis on the educational side of the work until now practically all of the twelve departments are directly or indirectly engaged in some form of vocational activity. It is significant that Mrs. Woolman, the new president, is one of the leaders in the movement for vocational education in this country and thru her official connection with Simmons College, as acting head of the department of household economics, it is probable that the cooperation between the two institutions will be increased, and the usefulness of the Union as a practice school for vocational students largely extended.

EDITORIAL

"**I** WAS teaching mathematics and a little science in a village school when I happened to read Dr. Draper's 'Our Children, Our Schools, and Our Industries.' I made up my mind that a new set of cards in an educational game was about to be dealt, and I began my work in vocational training."

Andrew S. Draper Thus spoke, a few weeks, ago, one of the most promising supervisors of industrial training in the eastern states.

Many a teacher in New York has paid a similar tribute to the work of the late State Commissioner of Education.

Such was the power with which Andrew S. Draper could influence educational thought. He was not a standpatter for ideas and methods which had outgrown their usefulness. He was not a pitapatter dabbling in superficial ways with a great state system of education. He was not a backpatter whereby he could delude himself and others into thinking that the schools were perfect in all respects.

Rather he was a man who had his eye upon the rising sun of a revised educational practice which should relate men and women to the changed conditions of life. He was essentially democratic, and born, as Henry Sabin states it, "levelheaded." Some men are born with common sense, vision, power to command and ability to give and to hold confidence freely and fully. Commissioner Draper was such a man.

Some men in educational circles walk sidewise with the result that they move in circles. Some have too much air; some too much gas. A few get the right mixture. This man had educational balance and he moved in straight lines. He had the courage to do what he believed was right and was enough of a leader and writer to make others believe as he did. One can almost hear his deep voice and see his distinctive figure as one recalls this masterful, clear-visioned educational ideal:

"Education that has life and enters into life; education that makes a living and makes life worth living; education that can use English to express itself; education that does not assume that a doctor must be an educated man and that a mechanic or a farmer cannot be; education that appeals to the masses, that makes better citizens and a greater state;

education that supports the imperial position of the State and inspires education in all of the States—that is the education that concerns New York."

Read it, study it, practice it. It will answer the materialist in education who says there is nothing to life but a job. It will confound the pedagogical juggler of educational practice who deals in terms of medievalism. It will startle the educational precisionist by its simplicity of wording and its goal. The educator with a sort of creeping paralysis method of approach will not understand its lack of 'isms and 'ologies of expression. To such people a confused massing of high sounding phrases implies depth of thought and a pedagogical instinct.

Dr. Draper was different. He was a lawyer, legislator, college president. To all his work he brought unusual power of interpretation of men and conditions, successful shaping of public feeling, and an able and skilled administrative power.

Enduring monuments are his—one the University of Illinois which, in a brief decade, came to rank with Wisconsin and Michigan. To accomplish this he stirred a whole commonwealth to a sense of its responsibility and its opportunity. Another is the State Education Building at Albany—built without scandal and within the appropriation. It was dedicated but a few months before the death of the man whose energies made its erection possible. These are monuments; visible—imposing—evident. But in eleven thousand school districts of the Empire State, there are invisible monuments of educational efficiency working out an educational democracy.

Obviously he was interested in vocational education. Undoubtedly he was the first state educational official to take a definite position. His address at the National Education Association meeting in Cleveland when he took as his subject, "The Adaptation of the Schools to Industry and Efficiency," was a straightforward pronouncement. It is perfectly safe to say that his clear and definite remarks at this time about the necessity of interesting the labor movement in the cause of trade schools, did more to establish confidence in the eyes of organized labor than the straddling, half-hearted statements of some school men on the same subject had or could ever accomplish. Dr. Draper never attempted to stand on two sides of a fence. When he was ready to take a position, every one knew where he stood. He never minced words—a spade was a spade and not a garden trowel. He believed in trade schools and every other sort of school which would make for social and industrial efficiency.

His work will go on always. That is the fortunate thing. New interpretations of social, educational, and industrial conditions will make their contributions to vocational education. He advocated a venture into the unknown. We must carry it out. He hinted at the difficulties. We must solve them. He adjusted the differences between educational practice and opinions of organized labor. We must be ready to translate the coming industrial unrest into terms of a satisfying education for industrial workers. He set the school men to thinking. We must show them that his plan is workable. He made the beginning. We must see it thru to the finish. These are the tasks which are left by Andrew Sloan Draper.

—ARTHUR D. DEAN.

Who is to Train the Teachers? In certain sections of the country there exists at the present time a more or less well-defined view that the chief obstacle to the rapid development of vocational education is the total inadequacy of the supply of teachers having the necessary training and other qualifications. It has been asserted by those whose pronouncements carry great weight of influence that the ordinary teacher or supervisor of manual training is not promising material out of which to make a teacher or director of industrial education, and that the ordinary normal school or university department of education can not train teachers of the kind needed. No doubt those who hold and promulgate this view are perfectly sincere. They feel that they are driven to it by the necessity of insisting on a new point of view in education and a new type of teacher. The new point of view and the new type of teacher are both needed, and must come, but the program is destructive, or at least negative, instead of constructive.

A more defensible and reasonable attitude is to encourage persons possessing various kinds of experience and differing views to study and work on the problems of vocational education, and to encourage any institution that will to undertake the training of teachers. Before it has been tried, it is difficult to see why any one should say to the normal school: "You can not train these teachers," or to the university: "You can not train these teachers." That surely is the wrong way to get something started—to go around to the different parties interested in a proposal, and hard at work studying it, and to say: "There is no use in your trying; you can not do the thing that needs to be done!" How much more reasonable to recognize that experience in the training of teachers, the professional atmosphere, and such facilities as are already in existence, are assets that should be utilized rather than discarded.

Let us have more, rather than less, of intelligent and careful experimentation; let all those institutions which have the facilities, and are in position to do so, attempt some contribution to the solution of these perplexing problems. Let even those experiment who insist that there are plenty of teachers available. For if, in the course of time, it should appear that those who complained of the great dearth of teachers and those who maintained that there was an abundance of teachers were not talking about the same thing, that discovery would not invalidate the contention that each should have been encouraging the other to work out his beliefs into practice instead of asserting that he was mistaken.

—WILLIAM T. BAWDEN.

The National Society Meeting It is within reason to state that the annual conventions of the National Society for the Promotion of Industrial Education occupy a position of prominence only excelled by the meetings of the Department of Superintendents affiliated with the National Education Association. The next convention will be held at Grand Rapids, October 23rd, 24th and 25th. This is about six weeks earlier in the year than has been the custom.

The program follows in some respects those of other years—at least in its general plan. The Society has acquired the habit, a wise one, of devoting a portion of the first day to papers and discussion of vocational schools with the special object of focusing attention upon the local situation as related to introduction of these schools in the particular state in which the convention is held. "What Michigan should do in order to get Vocational Education" is the subject over which there will be much discussion. It is more than likely that the old, or comparatively old, question of "unit" versus "dual" control will arise. Michigan is near enough to Wisconsin to receive some of the surplus energy of the advocates of the dual control and at the same time far enough away from Philadelphia where this question was threshed out at the last convention. We had supposed that it was settled. Evidently it is not. President Van Hise is to present the Wisconsin plan and President James of Illinois will point out the advantages of unit control.

The preliminary program announces that another Philadelphia topic is to be considered. "Should Michigan have compulsory part-time education now or work toward it gradually by passing thru the stages of voluntary schemes with state aid, followed by local option

later, this to be followed by a state wide compulsory law later?" And again it is a Wisconsin speaker defending the plan of his own state lined up against a New York speaker who presents the other side of the question.

The National Association on Vocational Guidance will meet at the same time. Professor Leavitt of the University of Chicago is President. This national body is the outgrowth of a meeting of those interested in vocational guidance held in Boston three years ago, a week before the meeting of the National Society. The fields of effort of each of these bodies has so much common ground that neither membership can afford to miss the opportunity of participating in the meetings of each of these most significant educational bodies.

The local Chamber of Commerce has been very active in arranging for the convention. It is a live body and will do its full share to sustain the Society's reputation for successful conventions. Harry Wheeler, President of the Chamber of Commerce of the United States; Honorable W. C. Redfield, Secretary of Commerce; Honorable W. D. Wilson, Secretary of Labor; Governor Ferris of Michigan are men of national reputation each coming with a message gained out of an experience with matters of large estate. The program of a half-day session is to be provided by the Chamber of Commerce of the United States. It will cover such topics as "How can Chambers of Commerce Help Vocational Education of all Kinds?" "The Importance of an Educational Committee in each Chamber of Commerce." A presentation will be made of the work which the American Bankers Association has done in developing educational work in the United States.

While the convention, in one sense of the word, does not open until Thursday, in another sense it opens on Sunday, for the various church pulpits are to be occupied by speakers on Vocational Guidance and Vocational Education with evening lectures on the same topics illustrated by the stereopticon. Another innovation, and a good one to those who are a bit bored by a formal banquet lasting until early morning, is the plan to have a "get together gathering" followed by speeches and a buffet lunch. The expense of furnishing refreshments is met by the Chamber of Commerce.

Part-time education occupies, as it should, a position of importance on the program. The report of the committee on the certification and training of teachers will be read. The short unit course idea in evening schools will be considered most fully and concretely with definite schemes for its workings in the various types of industry.

So much is being contemplated in the matter of investigation, local, state and national, that the Society is giving special emphasis to its importance and to the need of some criteria of investigation. Charles H. Winslow, of the United States Department of Labor, will lead in the discussion of the topic. He will be followed by men who will discuss from the floor, how these criteria will apply to different lines of business. Thousands of dollars are being expended in this country for investigations closely related to industrial education. The results from this meeting ought to save the country from the need later on, of an investigation of the investigations.

Taken as a whole, the program is very promising. The meeting place is easy of access at least to Eastern and Western men. Grand Rapids has excellent hotel accommodations—an unusual Chamber of Commerce—great furniture plants—good schools—fine public spirit, and bids, as VOCATIONAL EDUCATION knows, a hearty welcome to every one interested in children, schools, industries. —ARTHUR D. DEAN.

Panama Pacific Exposition of 1915 About a year ago James A. Barr, formerly superintendent of public schools in Stockton and the active force in amalgamating the educational teaching staff of the State of California into one great educational association, was placed at the head of the Bureau of Conventions and Societies of the Panama-Pacific International Exposition. After a few months of effective work he was promoted to the highest educational position on the Exposition staff. About the first of May, Mr. Barr was made Chief of the Department of Education. That Mr. Barr is thoroly awake to the present trend of educational work and will give it full recognition in the exhibit is shown by the following quotation from a recent letter: "I believe that the keynote both of the education exhibits and of the educational conventions should be to show the relation that education should bear to vocational work and to industry". We bespeak for Mr. Barr the hearty support of every reader in his effort to give the world a comprehensive demonstration of this phase of modern education.

—C. A. BENNETT.

OF CURRENT INTEREST

BOISE'S SOLUTION OF THE SCHOOL PROBLEM.

Discussion regarding the proper administration of vocational education is still rife. The press and public gatherings resound with the clamor of the disputants, the extremist still maintaining that industrial training must be absolutely divorced from the public schools, the conservative still clinging to the old standards of general education, and refusing to see the lack of true service in the traditional systems. But quietly, unostentatiously, here and there, some cities are proving effectively that the public school is capable of adjusting and adapting itself to the needs of our complex American life, without sacrificing the good in the old order and without introducing dangerous elements of class separation. Such a city is Boise, Idaho, a city with a school population of about 20,000.

The first step in the process of adjustment in Boise was the modernizing of the elementary schools. Four years ago there were employed a play ground director, a school nurse, a grammar grade supervisor, and a primary supervisor. Manual training, sewing and cooking were added to the curriculum and a group of four special teachers was engaged for these subjects.

In the high school were established a four-year commercial course, a four-year course in agriculture, and two-year courses in shopwork, drafting, cooking, sewing, art, music, and dramatic reading. Twenty-two additional special teachers have been employed in the past three years for these courses. At the same time the traditional courses have been enlarged and made more varied, and increased laboratory and library facilities have been provided.

The selection of suitable programs for each student in the high school was the next problem. Sixteen units of credit are required for graduation. These units may be selected from a curriculum offering a total of fifty-three units. In order to give every student liberty broad enough to fit his course to his own vocational needs and at the same time to prevent him from spreading his energies over an inarticulated field that leads to nothing, it was decided to require three years of English as a unifying center. To further insure against scattered effort each student selects one of the teachers as advisor thruout his course. This advisor consults the parent or guardian, gets all the in-

formation possible and selects the program in the light of the results of this investigation. This means, of course, that the successful working out of the plan depends upon the ability of the individual teachers to cooperate in the matter, but the superintendent reports no difficulty in securing hearty cooperation and conscientious effort toward careful guidance.

In conducting the industrial activities of a school, the great difficulty is to give pupils the sort of training that really functions with industrial life. The details by means of which this functioning is brought about in Boise may prove helpful to other cities endeavoring to solve the same problems.

In the commercial department the students take charge of the purchase, sale and payment of all books and supplies sold to students. It is planned that before long this department will have entire management of the disbursement of the \$235,000 fund for supplies, including the keeping of the books. Of course, teachers carefully check all transactions, but it is found that it takes no more time to check one of these real transactions than it does to check an artificial one.

The boys in the school shops make all repairs on school buildings and are given credit for summer work done under and approved by a competent contractor and builder. Any piece of work done in the community at any time by shop students and approved by the superintendent receives credit in school. The boys in the drafting department have planned more than fifteen residences already built in the city. Their exhibits in machine and architectural drafting have taken prizes in competition with professional draftsmen at the state fair. The plans for the Washington school building were drawn by the students of this department. They are now working on the plans and specifications for a new school and also for a greenhouse for school use. These plans must all secure the approval of the superintendent of buildings, the builder of many of the largest business buildings in the city. A number of the boys from the drafting rooms are employed by the United States Government as draftsmen on the five million dollar irrigation dam in process of construction in the mountains above Boise. The work done on this project will be duly credited in the high school course.

Most of the people of southern Idaho are interested in some special line of agriculture or horticulture. Courses in these subjects, therefore, occupy the chief place in the industrial curriculum. Two hundred students are enrolled in this department. Class and laboratory in-

struction is supplemented by much practical field experience in as many as possible of the specialized lines of the industry. Students plant, prune, spray, and cultivate commercial orchards, and work for wages in commercial packing houses. Arrangements have been made with implement houses whereby students may go into the field and demonstrate farm machinery to prospective purchasers. The managers of all the stock farms in the valley gladly bring their stock to the school grounds and give lectures on stock-judging before the classes in animal husbandry. Dairymen have set apart portions of their herds, as desired, for use of the department in demonstrating feeding, care, and milk production. The school has for three years owned a dozen pens of fine poultry, thru the care of which the boys and girls have gained much interest in the poultry industry. The students and teachers of the schools cooperated with local breeders in organizing the State Poultry Show, at which many of the prize exhibits were owned by students. A year ago the board of education leased thirty acres of land inside the mile track at the fair grounds for a demonstration farm. A practical farmer was employed to work under the instructors of the high school. Teams were procured, machinery purchased, and everything possible is being done to make the tract a good example of intensive farming. Experts of the United States Reclamation Department give instruction in all problems of irrigation. The agricultural department of the state university, seed dealers, and the seed growers are all interested and render valuable assistance. It is intended that this farm shall be an outdoor laboratory for the agricultural department and that it shall be sustained by the sale of products. The program for future development includes the addition of a commercial greenhouse and a model dairy.

That these attempts to make the industrial activities of the school train for the vocations of life are appreciated is shown by the increased attendance and by the attitude of the public. In four years the total school enrolment has increased 25% but the increase in the high school alone amounts to 122%. More than one-fifth of the pupils enrolled in the entire system are in the high school. The number graduating has trebled. No artificial methods have been adopted to retain these pupils in school, but the class of pupils who formerly dropped out are finding in the newer high school courses training which they and their parents recognize as of practical value in preparing for life work.

That the general public approves of the new developments in the

city schools is shown clearly in its attitude toward the financial side of the question.

Public education as now conducted in Boise is much more expensive than formerly. On teachers' salaries alone the budget has increased a trifle over 64% in four years, while the school enrolment has increased but 25%. The regular maintenance expenses have increased in greater proportion than teachers' salaries, since equipment for industrial activities costs much more than that for general culture subjects. During the same period \$300,000 has been expended for new buildings and \$25,000 for the purchase and improvement of grounds. Notwithstanding this increased expense, and the fact that Boise has an active taxpayer's league which has recently assailed every form of state, county and city taxes, not one public attack, either thru the press or from the political platform, has been made against school taxes. A crusade against school taxes has been avoided by keeping the public constantly informed as to school expenditures. The patrons have been educated as well as the children. Every educator of note who has visited the city has appeared before the Commercial Club and has talked to the business men about the policy of the school authorities. The recently employed special teachers have time after time explained or demonstrated their work before Mothers' Clubs and patrons' meetings. An industrial exhibit, visited by over four thousand patrons, and a school festival, helped to present the school work to the people. Another means of keeping the confidence of the public has been the securing of expert advice on administrative policies and the study of results. Three years ago Commissioner Kendall, of New Jersey, visited the schools and made a report to the board of education. This year Dr. Judd, of the University of Chicago, Dr. Elliott, of the University of Wisconsin, and Dr. Strayer of Teachers College, Columbia University, visited the schools for one week and made a report. Both reports have been printed for distribution. In the report made this year by these experts are found the following significant sentences:

"The course of study is closely adapted to practical and local needs. One of the most conspicuous virtues of the course of study is its elimination of irrelevant matter and its emphasis upon types of training which will connect school work with the practical activities into which graduates go. Special commendation is due to the success with which industrial and intellectual interests have been coordinated without sacrificing the legitimate emphasis upon reading, mathematics, history,

languages, and all of the common types of training. The pupils have been brought into an environment of practical activity which gives them a respect for industry and at the same time develops personal efficiency in dealing with domestic and business problems. While not overlooking many other excellent lines of work, the committee finds that the various courses in agriculture are highly commendable as distinct solutions of a practical local problem."

The conclusions of Superintendent Charles S. Meek, under whose administration the schools of Boise have reached this enviable degree of efficiency, are worthy of study in the light of his experience. He believes that:

"The public school teachers, because of their intimate relationship with pupils and with the local industrial situation, are better fitted for vocational guides than any foreign agent however expert may be his equipment. The public school curriculum should include real and practical vocational courses. The public school authorities are just as competent to select teachers able to conduct vocational courses as they are to choose teachers competent to render efficient services in other lines. The taxpayers cheerfully bear the increased financial burden such training occasions because its value to the community is quickly appreciated by the laymen. Children will cheerfully remain in school and work enthusiastically as they are sure their labor is making them more efficient for service in their chosen vocations in life."

THE TRADE SCHOOL IN NEW HAVEN.

New Haven, Connecticut, after mature deliberation, has established a trade school, financed by the city and controlled by the Board of Education, to be known as the "Boardman Apprentice Shops for Instruction in the Skilled Trades". The school will be housed in the Boardman high school, where all the manual training equipment that is up to trade standard will be utilized. Frank L. Glynn, formerly head of the State Trade School of Bridgeport, is principal of the school, and Miss Iris Prouty, of the New Bedford, Massachusetts, trade school, has charge of the girls' department.

The number of pupils will be limited to one hundred, and these must be fourteen years of age or eligible to the high school. Pupils may be admitted at any time. The school will be conducted as a year-round school, instruction being offered eight hours a day, five and one-half days a week, fifty-two weeks a year. The course will consist of 4,800

hours' work, equivalent to two-thirds of the usual apprenticeship period.

Only a few trades will be offered at first; for boys, woodworking (which includes carpentry, cabinet making and pattern-making), printing and machinist, and for girls, sewing, millinery, and cooking. These will be supplemented by adapted academic instruction. Other trades will be added as the needs of the locality point the way. The instruction for girls will be of a two-fold nature. The first half of the course will be given to an intensified study of homemaking; the second half to the study of a specific trade. If the demand arises, however, girls may begin the special trade courses on entering the school.

Academic instruction will occupy only 25 per cent of the weekly time, the remaining 75 per cent to be devoted to shop practice. Pupils and employes of the school will be given two weeks vacation each year, and all legal holidays. The school product will be made entirely commercial in character wherever possible, the earnings to be applied on the maintenance cost of the school, provided a proposed amendment to the city charter becomes effective.

The city Trades Council, after hearing the plans and purpose of the school explained by Mr. Glynn, gave its unqualified endorsement of the school. The council was assured that overproduction in the trades would be carefully guarded against by having frequent consultations between masters of the trades and the school authorities. The council was also assured that the pupils would be taught their trades in their entirety, so that when they completed the course they would be the equal of the apprentices of like grade turned out by the factories, and not low-priced competitors as feared by the unions. These are two doubtful points on which has been based much of the opposition to trade schools on the part of trades unions in other localities.

With such harmony existing between the school authorities and the industrial interests of the city, with a clearly defined program of activity, and with experienced educators in charge, the prospects are bright for New Haven's trade school.

PENNSYLVANIA'S VOCATIONAL EDUCATION LAW.

The movement for country wide vocational education has been given another strong forward impulse by the passage of the vocational education bill in Pennsylvania in May. The form of administration provided for in this law is controlled by the State Board of Education and by local boards of education. The local boards may, if they wish,

appoint advisory committees composed of members representing local trades, industries, and occupations.

The State Board of Education is authorized and directed to investigate and to aid in the introduction of industrial, agricultural, and household arts education, to assist in the establishment of schools and departments for these forms of education, and to inspect and approve such schools or departments. The board is directed to make a report annually to the Governor and Legislature describing the condition and progress of industrial, agricultural, and household arts education during the year, and to make such recommendations as the board deems advisable.

The law provides that the State Superintendent of Public Instruction shall be the executive officer of the State Board of Education for the administration of this act. He is to appoint from time to time, with the approval of the state board, such expert assistants as may be necessary in carrying out the provisions of the act.

Section four provides that instruction in the schools or departments in question may be offered thru day, part-time, or evening classes. The attendance upon any of such classes must be limited to pupils over fourteen years of age.

Provision is made for rural pupils in the section which permits the establishment of joint vocational schools or departments by two or more districts.

In regard to the admission of nonresident pupils to these vocational schools, the law holds the district in which such pupils reside responsible for payment of the tuition, for which they will receive reimbursement from the state to the extent of one-half the sum expended.

Such local or joint vocational schools or departments as may be established are eligible for state aid when they have been approved by the State Board of Education as to organization, control, location, equipment, courses of study, qualifications of teachers, methods of instruction, conditions of admission, employment of pupils, and expenditure of money. The aid, which is to be paid annually, amounts to two-thirds of the sum expended by the school district or districts, during the previous school year, for instruction in practical subjects and those technical and academic subjects necessary to completely round out such practical training, provided that no one school district shall receive more than five thousand dollars in any one school year.

The act guards against the deflection of funds to other purposes than those intended by carefully defining in the first section in nine items

just what is meant by each word or phrase used in describing the practical forms of education. This seems a necessary and commendable precaution at present when the words vocational and industrial are being used so carelessly by the general public and the press.

THE NEW LAW IN NEW YORK.

The state of New York has taken a definite stand in favor of continuation schools for employed young people in the recently passed amendment to the vocational education law. Up to the time of the passage of the amendment New York has been requiring the attendance of employed boys, between fourteen and sixteen years of age, who had not met certain elementary school requirements, on public evening schools six hours per week for a period of sixteen weeks.

The experience of the two cities of New York and Buffalo shows that this law requiring attendance on evening schools cannot be satisfactorily enforced. In a memorandum on the new law the following important statements were issued on the subject of the evening school under the old regime:

The attendance officers are more than occupied with the work of the day schools. A huge force of additional officers would be required to properly enforce the statute. There should have been 22,000 permit boys between fourteen and sixteen in the compulsory evening classes in New York City for the school year 1911-12. There were exactly 7,085 enrolled, many of whom gave less than the attendance required by law. In the Twelfth Annual Report of the City Superintendent of Schools of New York, it is stated that, 'It has been found that, in spite of the best efforts on the part of the attendance officers, it is very difficult, and in many cases impossible, to keep these boys at evening school.'

Physicians, labor organizations, social workers, and educators are agreed that the attendance upon the evening schools of immature children under sixteen years of age after a long day's labor, usually from eight to nine hours, injures them physically out of all proportion to any educational benefit they might receive and actually shortens at the upper end of their lives, the period of working efficiency. John M. O'Hanlon, editor of the Legislative News, the official journal of the New York State Federation of Labor said in a recent address, 'The present system of night schools for child workers is a hateful outgrowth of the employment of child labor.'

The compulsory attendance of permit children on evening classes can not be justified from either the educational, social or economic standpoint. Fatigued mentally as well as physically they fall asleep at their books and practically all of them are in no condition to receive instruction properly. At their age they need after working hours relaxation, games, recreation, amusement, rather than

close confinement to study. Administrative conditions are such that to a large extent these permit children must be taught in ungraded classes for illiterates along with adults which makes it impossible to give their group the instruction which is best for them.

It has been found practically impossible to give these children in evening classes the vocational instruction which they need as much as elementary school training. Experience shows that education in vocational subjects can only be given successfully, in addition to general instruction, through part-time and continuation schools. Evening vocational school work is best for children after sixteen, and day vocational schools of every kind begin to be effective after fourteen. By placing permit children in part-time and continuation classes during the day, the work of the evening classes would be very much improved for adults who can then receive, in part at least, instruction complementary to their daily work. The returns from the required attendance of permit boys on evening school instruction are so unsatisfactory as to make it very plain that it does not justify the large cost and comparative waste of time on the part of these children.

The new law provides for the compulsory attendance of these permit children upon part-time and continuation schools and courses in cities and districts in the state. It gives the educational authorities the option of establishing these schools gradually. Attendance upon them for a period of not less than four and not more than eight hours a week for forty weeks a year is made a full and satisfactory substitute for the attendance upon evening schools.

For purposes of comparison it seems worth while to list here the types of schools now provided for in the amended law. There are general industrial schools for those who are fourteen years of age; trade schools for pupils sixteen and over; schools of agriculture, mechanic arts and home making for pupils fourteen years of age and over; part time or continuation schools for employed pupils over fourteen years of age; and evening vocational schools for pupils over sixteen years of age who are employed during the day.

The administration of vocational education in the state of New York is under the control of the regular public school authorities.

PREPARATION OF TEACHERS FOR THE TRADE SCHOOLS.

At the State Normal College, Albany, New York, a definite attempt has been made, during the past year, to train men for positions in vocational schools. The details of this experiment as outlined by

H. B. Smith, the director of industrial education in the normal school, will, we are sure, be welcome to those who are working on this problem of the supply of teachers.

For two years, the school at Albany has received calls for men trained to teach specific trades. A one-year course had been carried for this purpose but only one man each year had availed himself of the privilege. With this experience in view, it was determined to establish a night school to care for the demand. The number was limited to fifteen men, and these were limited to four trades, pattern-makers, cabinet makers or carpenters, machinists, and general metal workers. Not less than five years' experience in addition to apprenticeship was required of candidates for the course. A full number for the class was soon selected, each upon personal application, after having been recommended by the superintendents or managers of the various shops interested in the line of work.

The men were found to be of a rather superior class of shop men, with an average experience of twelve years.

The class met on Tuesday and Thursday evenings from seven to nine-thirty, the term being forty weeks in length. The work was divided into four subjects; shop work, drawing, shop mathematics, and the principles of teaching. In the shop work the only general information given in the trades was in the direction of some special classes of work which the men had not been able to get in their experience. For instance a machinist may have worked many years in a shop and may have never used a milling machine. Such a man was put on the milling machine and thoroly taught its principles and uses.

The main object of the shop work was to show the men by example how to treat students in a trade school. The men assumed the attitude of green apprentices, and the instructors approached them just as such apprentices in a trade school should be approached, gave them the same carefully laid-out courses of study, showed them the correlation between the shop course and shop mathematics and drawing and presented the latter work to the men exactly as they are expected to present it to their future pupils. In general the idea was to give them the atmosphere of a trade school with their own skill as a background on which to work, and in this way to allow them to absorb, as far as possible, the spirit of a good teacher.

The only academic course was that in the principles of teaching. In this course were discussed the necessity of outlining, the principles of laying out work, courses of study and equipment, the correlation

between different parts of a school, the prices of materials, class recitation and examination, records and efficiency cards and other practical details of a teacher's work. In this course no attempt was made to go deeply into the philosophy of the subject, only such facts being studied as were necessary for any man who expects to impart information.

Altho the real success of such an educational venture can only be judged by the records made in the future by the men who go out from the course as teachers, yet the immediate appeal of the instruction may be determined from the facts that, at the time our information was received, not a man had left the course since registration and no one had been absent from a single lesson.

It is to be hoped that accurate record will be kept of these men in order that the value of their training may be estimated in definite terms of efficiency.

THE NEW JERSEY AMENDMENTS.

New Jersey was one of the earliest states to legislate in favor of industrial education but the conditions required of the local authorities in these early laws were such that the laws did not result in the establishment of true vocational schools to any extent. There have been passed this year, however, amendments to these earlier laws which should result in the rapid establishment of vocational schools thruout the state.

In order to understand the full force of the amendments it may be well to analyze the original law, the main provisions of which were as follows: The state had no initiative in establishing schools, such action depending altogether upon the local community. Two schemes of state subsidy were provided, one which required the local community to raise a sum of \$3,000 by voluntary subscription from citizens, and under which the state would reimburse the community in an amount equal to that expended by the local community, not to exceed \$7,000; and the second plan which required the local unit to acquire by gift or bequest, \$100,000 and to raise by subscription \$3,000, the aid from the state in this plan not exceeding \$10,000. There was no provision for local taxation for vocational schools under this law.

In the matter of control the state exercised no authority beyond requiring occasional information and an annual report to the Commissioner of Education. The local school committee exercised complete

control over the industrial schools and no advisory committee was provided. The law was very indefinite as were most of the early laws on industrial education everywhere.

The new amendment relating to vocational training begins with a complete definition of terms used in describing practical forms of education. It provides for the three types of vocational schools, day, part-time, and evening. These schools may be established by single districts, by a union of districts, or by counties. Before any such schools may be finally established, however, the location, rules of management, and the courses of study must be approved by the Commissioner of Education, subject to the advice and consent of the State Board of Education. As aid the state is to pay to the school district an amount equal to the amount raised in the district for the school, exclusive of the funds appropriated for grounds and buildings. This aid is to be given annually, with the proviso that the amount given to any one district in one year shall not exceed \$10,000.

For the schools established by two or more districts in union there is an additional provision that such a school shall be controlled by a board of education, a body corporate, called "The Board of Education of the Union Vocational School of — District of — County".

The greater part of the amendment is devoted to a special type of school, the "county vocational school". Item eight permits the establishment of an industrial, agricultural, or house-hold arts school in any county in the state. The State Board of Education is to prescribe rules and regulations for the organization, management, and control of such schools. The same approval is required as for the district vocational schools. These country schools are to be administered by a board of education consisting of the county superintendent of schools, and four persons to be appointed by the judge of the Court of Common Pleas in the given county. These board members must be residents of the county of at least three years' standing, and must serve four years. The powers of this vocational school board include, among others, the employment and dismissal of principals, teachers, and employees, the arrangement of the course of study, and the making of such rules and regulations as will not conflict with those of the state board. Supplementary to this board of education, the law provides for a board of school estimate, to consist of two members of the vocational school board, two chosen freeholders of the county appointed by the board, and the judge of the Court of Common Pleas.

The function of this board of estimate is to pass upon and authorize expenditures, and otherwise to control the financial side of the local administration. The law provides that money for these county vocational schools may be raised by taxation, by the issue of bonds, or otherwise. The amount and regulations regarding state aid are the same as for district or union vocational schools. The State Board of Education is given power to withdraw the state aid in case the conduct of the school does not meet with its approval.

The Commissioner of Education is given a great deal of responsibility in this amendment. He is to investigate the need for vocational schools, he is to approve all plans of proposed schools, and must give his approval of existing schools and an order before state aid may be obtained. The law does not go into detail as to the exact character of the vocational schools, evidently intending that the Commissioner's responsibility will insure the establishment of the desired types of schools.

The various new state laws present an interesting contrast in this matter of emphasis, some going into considerable detail as to organization, course of study, and teachers, others, as does the New Jersey law, becoming explicit as to the business side of the vocational schools.

A GIRLS' VOCATIONAL SCHOOL IN THE SOUTH.

Convincing evidence that vocational schools are a response to a nation-wide demand and not merely a local development in the great manufacturing section of our country, comes in the news from "way down south", where New Orleans has just established a vocational school for girls. A trade school for boys has been expected in New Orleans for some time but certain conditions of the Delgado bequest for that purpose make it necessary to move very slowly in the matter. So not waiting for the boys' school, the city has proceeded to provide for the girls with the means at hand, as part of the regular school department.

The school, to be known as the Francis T. Nicholls Vocational School for Girls, will open when the regular schools do in the fall. Girls may attend who are fourteen years of age or who have finished the sixth grade. The courses to be offered include custom dressmaking, ready-to-wear garment making (for which power machinery will be used), salesmanship, millinery, art needlework, designing, domestic science, laundering, and homemaking. The related academic work will

include commercial arithmetic, English and drawing. Special emphasis will be laid on the formation of good habits and the cultivation of an agreeable and dignified personality.

The Board of Education appointed as principal of the school Miss Rita Johnson, a woman who has had twelve years of varied experience in the city schools, with considerable administrative responsibility. For assistants she has two graduates of Newcomb College, Mrs. Adele Stewart, who will have charge of home economics, and Mrs. Annabel J. Nathans who will teach design, and Miss Augustine M. Vigio who will teach millinery.

By personal consultation, Miss Johnson has secured the cooperation of the business men in the city, who have agreed to give graduates of the school the preference in selecting employes, and to aid in following up the careers of these graduates. Thus a field for placement is already provided for as well as a means of checking up the efficiency of the training. Stores and factories will be carefully investigated before employes are sent to them.

Miss Johnson is visiting New York and Boston trade schools for girls for suggestions and the northern point of view, but doubtless local conditions will create some interesting developments in this school which will be of general interest. The field of work is so untried that each new school has the value of an experiment station to the country at large.



To Paul Kreuzpointner, veteran enthusiast and worker in the cause of industrial education, have come in the last few months several marks of recognition for good service which he so well deserves. The Prussian Government expressed to Mr. Kreuzpointner, thru its Minister of Education, Count von Grossen-Surm, the thanks of that country for the work he has done for the cause of industrial education. The German Ambassador, Count von Bernstorff, of Washington, D. C., transmitted to Mr. Kreuzpointner, on behalf of his government, a large library of educational reports issued by Germany, as a tangible remembrance for favors done to German educators studying American school methods. By his own countrymen, Mr. Kreuzpointner has been honored by election to the vice-presidency of the Pennsylvania branch of the National Society for the Promotion of Industrial Education, this being his second term in that office, and to the second vice-presidency of the department of manual arts of the State Educational Association.

Murrell Dobbins, City Treasurer of Philadelphia, the man who as a member of the Board of Public Education of Philadelphia introduced in that city the first public trades school in the United States, has recently given further evidence of his interest in the training of young men along practical lines. His latest benefaction is a gift of \$5000 a year for three years to his old home county in New Jersey for the establishing of a trades school. A recent law in New Jersey provides for a state grant equal to an amount up to \$5000 raised by any county for vocational education and so liberal provision is assured for the work. William C. Ash, principal of the Philadelphia Trades School, has gone over the field with the public school authorities of the county, and day and evening vocational classes will be organized in September of this year. The work will be conducted in a new high school building in Mt. Holly, the county seat, which is centrally located as to population and the industries.

Mr. Dobbins was born in Burlington County, New Jersey, and learned the trade of bricklaying. At the age of 21 he earned a wage of \$1.50 a day. Today he is owner of one of the largest pottery manufactures in the country and has amassed an independent fortune. He knows by experience the need of opportunity for practical training.

As president of the Board of Inspectors for the Eastern Penitentiary of Pennsylvania, he has established in that institution, trade classes in plumbing, sheet metal work, electricity and carpentry.



The Girls' Department of the Industrial School at New Bedford, Massachusetts, made definite efforts, the past year, to reach with its instruction girls and women outside of the regular industrial school, who seem likely to profit by the opportunities offered. Six centers were opened in various school houses, in which were taught dressmaking and millinery. These were for night classes. In one part of the city a cooking class was conducted. One of the mills has a "cook-house", used for preparing employees' dinners. The school had the use of this kitchen one evening a week. When the mill closed at five-thirty, as many girls as could be accommodated came directly to the kitchen and cooked their supper under the instruction of a cooking teacher from the industrial school. The mill furnished the room and equipment, the industrial school the teacher, and the girls paid the cost of the raw material which never exceeded ten cents each. The instruction was very evidently appreciated as there were more applicants than could be accommodated, and there was no falling off in attendance.

FOREIGN NOTES

By H. WILLIAMS SMITH.

Professor Ainsworth-Davis, in the *Journal of the Board of Agriculture*, writes:—"There is probably no country in the world where agricultural education is better organized and more appreciated than in Sweden. Research of the most advanced character is carried on at Stockholm and Svalöf." Sweden boasts of a Royal Academy of Agriculture; our one Royal Academy in England is not of Agriculture but of something else beginning with "A." Sweden possesses two agricultural colleges, twenty farm schools, and also runs short courses here and there. The Swedish system of education also provides for instruction in dairy-ing, veterinary science, farriery, forestry, economics, etc. The adjacent countries of Norway and Denmark vie with Sweden in making two blades of grass grow where only one grew before. In fact our English farmers are getting restive at having Denmark preached to them.

The secondary schools in Prussia with a well-defined agricultural "side" at present number eighteen.

At a conference held at the Town Hall of Charlottenburg it was resolved:—"That in the interests of the nation it is urgently necessary that some arrangements should be made to give advice and help in the choice of a career and the finding of work to all children leaving the elementary schools." The new Central Juvenile Employment Bureau for Greater Berlin is the only one of its kind in Prussia. In this branch of social service England stands easily right ahead of Continental countries.

It is proposed by the Ministry of Trade and Commerce in Berlin to institute a course of training in that city for teachers in industrial and trade continuation schools, to last one year and terminate with an examination. The subjects taught will include pedagogy, knowledge of business methods, and the elements of technical drawing. Engineers, artisans, and teachers will be admitted to the course.

Madryn Castle, Wales, once the home of Tudor knights, is now the most business-like farm school in Great Britain. The castle has been acquired by the Carnarvonshire County Council, the students will be residential, and instruction will be provided for men and women alike in agriculture and horticulture. The *Daily News* remarked "It is almost too beautiful to be converted into a school." We are surprised at the News. Its first editor—Charles Dickens—would not have made a statement like that. In our opinion Madryn is now being put to better uses than ever the Tudor knights managed.

An exhibition of the work of evening continuation schools was recently held in Edinburgh, which city's pioneer efforts in this particular work have been second to none in the British Empire. There were sixteen sections covering most crafts and the displays were so good that the Director of Southern Manchurian Technical School wished to purchase the whole of two sections and parts of others for his own school. The Edinburgh classes are doing much good work in the vocational education line.

Herbert Samuel, Postmaster-General, is dealing with "blind alley" employment of boy messengers. In 1910 the number discharged was 3,600, in 1911, 1,200, and last year 426. This year the number is expected to be nil, which means that in future a boy messenger's after vocation is assured.

The *Teacher's Times* says:—"There is a very strong and definite movement in favor of vocational education, that is, to be explicit, of education given in our schools, which shall at least partially fit the children for work of a definite kind. The question arises: Ought school-life to be absolutely colorless from an industrial point of view; or ought it to be tinged, so to speak, with the dye in which the children will in future dip their hands? We are strongly of the opinion that among the subjects taught in our primary schools should be at least one which has a bearing on the probable future work of the children."

The Institute of Certified Grocers held its fourth examination at Westminster Technical Institute. In four years the classes of the Institute have grown from 7 to nearly 70, the examination candidates from 66 to 445. For the final examination the large hall was turned

into the semblance of a grocers' warehouse. Candidates described, judged, valued, and priced samples of dried fruits, spices, bacon, etc., discriminated by taste, smell, and appearance only between lumps of butter and margarine, and did coffee-roasting, tea-tasting and other tests.

An article, entitled "Vocational Education and the Nation," appeared recently in *The Fortnightly Review*, written by Mr. Cloutesley Brereton, an inspector under the L. C. C., in which he made out a good case for some form of vocational training in our schools. The chief reason, he thinks, for the present day discontent with our criticism of the school arises from the fact that our education is too general, and not sufficiently vocational, that it has in the past insisted too much on the factor of preparation for life, instead of insisting as well and concurrently on preparation for livelihood.

The *Schoolmaster* pays a tribute to the merits of the reformatory and industrial schools, and says that they have always been worked on the lines that education should not be confined to the schoolroom, but should include manual work. Just so. The thoroly bad boy has always had a better chance than the thoroly good one of getting help, and sympathy and a good start in life. We are now asking for vocational training for the good boys, bless them!

The report of the Rural Education Conference recognizes in the most emphatic manner the absolute necessity of developing skill in all workmen employed in agriculture by an early practical training on the land; that instruction in manual processes should be provided for elder boys and girls at school; and that the holidays should be so regulated as to leave boys free to work on the land at a time when their work is most useful. Let us hope the boys may thoroly enjoy working on their holidays.

Waldorf Astor writes in the *National Review* on "Boy Labor and Education." It seems a strange topic for such a man, but millionaires might study worse things. He says:—"A boy's work has got into one groove and his education into another." He deplores that "boy labor and education have now become completely separated." "No boy," he goes on, "should be allowed to leave school except to go into regular employment of a suitable character, and when working life begins education

should not cease." He advocates compulsory continuation schools, but only under proper conditions. Another of his sound observations is:—"Juvenile labor is at present uneducational; it is a department of the labor market, and not a preparation for adult life." If Waldorf practices what he preaches, he must be reckoned a worthy descendant of old John Jacob.

Here are a few excerpts from recent speeches:—"When I came to the Board of Education I found the grant to trade schools only £2.17s per head per year. I have been able to get that grant increased to £5, and hope it may be further raised to £7."

J. A. Pease, President of Board of Education: "The encouragement of technical work might be assisted by the junior technical schools where practical work should approximate to the actual trade processes and conditions existing in the particular district." The same; "I think we ought to do a great deal more to establish continuation schools for technical purposes in the day time."

The same, in the House of Commons; "In London 30,000 boys left school every year. Of these only 28% found their way into the skilled trades, while 67% drifted into irregular employment."

S. J. G. Hoare, in the House of Commons; "Our educational system, instead of being limited to abstract learning, should include forms of education which would fit a boy or girl for earning wages. An enlarged education of that kind would give to the nation life, vitality and freedom from much that dragged down the social level."

Lord Haldane: "I have the greatest sympathy with any practical scheme for dealing with the 'blind alley'." "I do not quite agree with Lord Willoughby de Broke that only boys who belong to the criminal classes get proper facilities for that manual instruction which we should all like more universally provided." Mr. Asquith, the Premier.

Middlesex has established three trade schools, two for boys and one for girls. It has been found that boys from these schools have no difficulty in obtaining places with marine, electrical and motor engineers, and others. Leeds has two day preparatory trade schools. At Halifax there is a day trade school, as also at Darlington. Birmingham possesses a flourishing day trade jeweler's school. Shropshire and Northhampton alike are arranging to establish trade schools. In fact, trade schools are rapidly becoming commonplaces in English education, and one will soon cease the endeavor to note the new comers.

REVIEWS

Training the Boy, by William A. McKeever; the Macmillan Company, New York; 5½x8 inches; pages 368; price, \$1.50, net.

We wish that every person in the United States who is in touch with the life of a boy, either as parent, guardian, teacher, adviser, or friend, would read this book. That the author, who is professor of philosophy at the Kansas State Agricultural College, perhaps better known in Kansas as "Sunshine McKeever," is a boy enthusiast is evident in every chapter. He believes thoroly in the capacities for good inherent in every boy's nature, and he shows us how, step by step, these capacities may be developed and trained, while undesirable tendencies may be controlled and checked. Coupled with his enthusiasm the author displays profound knowledge of boy nature. He talks of the everyday features of boy-life in a sensible, direct way and in a simple, readable style.

The book is divided into five main parts: Part I—Industrial Training, with chapters on pre-school development, the public school and adjustment, vacation employment, serious industrial employment, sending the youth to college; Part II.—Social Training; Part III.—Habit Training; Part IV.—Vocational Training; Part V.—Service Training. Under part four, the chapters treat of the new vocational ideal, methods of vocational guidance, vocational training schools for boys and getting started in business. While the interest of vocational educators will center in this section, they will be well repaid for careful study of the other sections also. The author's main contention thruout the book is that each boy needs an all-round development. There is no question but that in their zeal for industrial efficiency some workers in the field of vocational education are losing sight of this demand for full development. This book should prove helpful in directing the attention of these people to the broader problem before them.

Very sound advice is given in the discussion of vocational guidance. Indeed, in view of the widespread interest in this subject and the rapid increase of vocational bureaus, vocational counsellors, and vocational "experts," this chapter is perhaps the most valuable in the whole book. The "experts" may well compare their elaborate systems of classification and analysis with the author's simple psychology and understanding of boy nature.

Thus this book, designed primarily to help parents, touches on so many of our modern problems of child training that others besides parents will profit much by studying it and will be inspired by its optimistic, wholesome spirit to a more heartfelt and intelligent service.

—V. E. WITHEY.

The Home School. By Ada Wilson Trowbridge, Instructor in Household Economics in the Providence, Rhode Island, Home School. With an Introduction by Randall J. Condon, Superintendent of Schools, Cincinnati, Ohio. Published by Houghton, Miflin Company, Riverside Educational Monographs, Boston; 4¾x7 inches; 98 pp.; price, 60 cents, *net*, postpaid.

The typical equipment for cooking in the public school is a table, or series of tables, arranged in the form of three sides of a square, each pupil, or group of pupils, being supplied with a small gas stove and a quantity of dishes and utensils. The kinds of work that can be undertaken, and the kinds of problems that can be solved, are more or less limited by the artificiality of the conditions. It has been very difficult for girls to see the connection between the treatment of necessarily limited quantities of food over a single gas burner at school and the preparation of a meal on a coal range at home. This book is a most interesting and readable elaboration of a plan by which the training of girls in the arts of homemaking is to be carried on under conditions that more closely approximate those of the homes in which the girls are to live.

"The time is here when the whole field of domestic science must be viewed from a new standpoint. Just one successful home school, with its productive environment, throws down the gauntlet to the laboratory method of training girls for the vocation of homemakers and mothers. The idea of housecraft becoming a part of organized, conscious education is the most practical thing in the world. It is not a *fad*; it is not a *frill*; it is a fundamental in the economic evolution of the race."

Of particular interest are Chapters III and V, which deal with "The Home as an Institutional Unit and the Home School an Expression of It," and "Special Things to be accomplished Thru the Home School." Another Chapter presents an outline of the work to be carried on in the Home School by the different grades of pupils, and still another is a full description of the "Home School of Providence, Rhode Island." "Housekeeping Notes Used at the Providence Home School," and "Some Distinctive Methods of the Home School" are the title of Chapters VIII and IX.

The details of plans of work and methods of administration, as given, are sufficient to enable the reader to adapt them to his own conditions. This book deserves careful reading and study, and is certain to exert a wide influence.

—WILLIAM T. BAWDEN,
Teachers College, New York.

Bedrock, By Annie L. Diggs, Social Center Publishing Co., Detroit, Michigan; 5½x8¼ inches; 70 pages; price, 25 cents.

The sub-title of the book is "Education and Employment the Foundation of the Republic." The author's proposition is "To establish a bureau of employment in connection with each and every educational institution thruout the wide domain of the Republic of the United States." This, the author believes, will prove a panacea for all our ills, educational, industrial, and social. She describes the organization of the employment bureau, the work of its proposed committees, and the benificial effects which are to follow its establishment.

We fear the author has not given sufficient consideration to two important facts; first, that the schools as at present organized are not fitting pupils directly for employment; second, that "there are no jobs fit for children to take," to quote from the report of the Preliminary Vocational Guidance Survey in New York City. Miss Diggs optimistically thinks that the presence of the employment bureaus in the schools will make the school authorities see the error of

their ways and provide vocational training at once; and that the high standards for employment set by the social service workers in charge of the bureaus will bring about organic changes in the industries and the ideas of employers. She says: "The work of the employment bureau will make enormous appeal to the conscience and the intellect of the nation relative to the necessity for providing full opportunity and humane conditions for toilers of the Nation."

The relation of the employment bureau to the vocational school is receiving and should receive careful attention and profound study. We doubt, however, if much light will be thrown on the subject by the perfervid pronouncements found in *Bedrock*. They are too obviously theoretical and superficial. —V. E. W.

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The meetings of the National Society for the Promotion of Industrial Education are the clearing house of ideas for all interested in the subject of vocational education. So much progress has been made in the last two years that the speakers at the Philadelphia meeting were able to talk more from the standpoint of experience than has heretofore been possible. Therefore the report of this meeting is of vital interest to every teacher, administrator and student of vocational work. The following main heads were each discussed by several speakers: Legislation in Pennsylvania; The Training of Teachers: Girls' Work; The Training of Teachers: Boys' Work; Federal Aid for Vocational Education; Approach to Problems; Debatable Issues in Vocational Education; Conservation of the Next Generation; Cooperation between Schoolmaster and Layman.

The list of speakers included manufacturers, educators, philanthropists, and one machinist, so readers of the proceedings may be assured of finding all sides of the questions presented. The opinions of the man on the program who may be said to have represented labor should prove especially valuable to members of the society and all others interested in the cause.

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A Quarter Century of Technical Education in New South Wales. Publication Committee, Government Printing Office, Sidney, New South Wales, 9x11½ inches, 318 pages.

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departments of these schools and of continuation classes. It is a good thing for educators in this country to gain a glimpse, as is possible thru a book like this, of what has already been accomplished for vocational training in faraway countries.

Calendar, 1910-1911, Technical Education Branch, Department of Public Instruction, New South Wales, 5 $\frac{1}{4}$ x8 $\frac{3}{4}$ inches; 270 pages.

This book gives details of courses and syllabi of class instruction in the Sydney Technical College and allied schools.

RECEIVED

Vocational Education in Wisconsin. By Arthur M. Evans. A reprint of articles in the Chicago Record-Herald. Published by The Commercial Club of Chicago.

Expressions on Education. By American Statesmen and Publicists. Excerpts from speeches and documents beginning with Franklin, Washington, Adams and Jefferson and ending with men of our own time, such as Wilson, Roosevelt, Taft, and President Eliot. Bulletin No. 28, 1913, United States Bureau of Education.

Vocational Guidance. Report of the committee appointed by the schoolmaster's club of Cleveland, Ohio.

Bibliography of Industrial, Vocational and Trade Education. By Henry R. Evans. This is the most comprehensive, up-to-date, carefully annotated and altogether valuable bibliography that has been issued in this field. A 92 page bulletin (No. 22, 1913), issued by the United States Bureau of Education.

German Industrial Education and its Lessons for the United States. By Holmes Beckwith. Contains a valuable discussion of the Apprenticeship System. A bulletin of 154 pages issued by the United States Bureau of Education, No. 19, 1913.

The Georgia Club for the study of Rural Sociology. By E. C. Branson, State Normal Schools, Athens, Ga. Bulletin No. 23, 1913, United States Bureau of Education.

A Comparison of Public Education in Germany and in the United States. By George Kerschensteiner, director of the schools of Munich, Bavaria. Bulletin No. 24, 1913, issued by the United States Bureau of Education.

The German System of Industrial Schooling. By Ralph C. Busser, American Consul at Erfurt, Germany. Published by the Public Education Association, James S. Hiatt, Secretary, 1015 Witherspoon Building, Philadelphia, Pa.

VOCATIONAL EDUCATION

NOVEMBER, 1913

HOW MAY A COMMUNITY MAKE A STUDY OF ITS SCHOOLS AS OPPORTUNITIES FOR VOCATIONAL EDUCATION?¹

MRS. BRYANT B. GLENNY.

THE aim of our committee was to study the opportunities presented for vocational training in and around Boston, especially those offered by educational and philanthropic institutions, and to make the result of this study easily accessible to children, parents, and teachers, and all interested in giving vocational counsel.

Our plan was as follows:

1. To prepare a series of maps showing the distribution of educational agencies and resources.
2. To prepare a directory of these educational agencies for individual and community use, and issue this material in chart form periodically.
3. To prepare reports upon the character and scope of the work of these institutions.
4. As a result of this study to offer constructive suggestions, so that there would be less over-lapping and less waste of energy and money, and more effective cooperation.

In short, this plan of work was intended to find the opportunity, study and describe it, point it out to those seeking it, and endeavor to improve it by charting it and thus comparing it publicly and impersonally with similar opportunities.

¹ A report of three years' work accomplished by the Committee on Opportunities for Vocational Training, Women's Municipal League, Boston, Massachusetts, by the former chairman of the committee.

METHODS.

Our methods for the accomplishment of this plan were as follows:

1. To catalog and classify as completely as possible the educational agencies of Boston.
2. To collect printed reports from these institutions and make digests of them.
3. To send out special lists of questions to get needed information not given in the printed reports.
4. To visit the most important institutions.
5. To confer with individuals and representatives of organizations who were interested in the work of these agencies.
6. To form advisory committees composed of experts for each type of educational training to be studied.
7. To find out what had been done along this line of investigation, either in Boston or elsewhere.

To summarize:—We hoped, by an effective combination of plan and method, so to pioneer a survey of Boston's vocational opportunities, that other cities wishing to make a similar survey might benefit by our successes and failures.

We now hope that the result of the League's study, modified to suit the needs of other communities, may be the means of saving much time and expense. We also hope that it may prove to be a useful contribution to the vocational guidance movement.

We would like to go even farther and suggest that the result of our experience should serve as a point of departure for a far more difficult and hazardous task—that of improving the opportunities by urging higher standards or ideals for the schools.

I use the terms "improving" and "standards" advisedly and cautiously.

I use them for our purposes to mean:

1. Employing a tested method for selecting and emphasizing the best schools; and,
2. Assembling a body of determining facts—indicating the superiority of the schools so selected.

Used in this limited sense this standardizing process seems to be the logical approach to some form of state regulation and control of private vocational schools, operated for profit. Such state control should provide for the expression of individuality of all workers concerned—rather than for its suppression.

As the first step in the preparation of the charts, it was necessary to subdivide the types of education offered by the schools. We obtained advice for this classification by issuing a circular letter to some twenty educational experts in Boston, Massachusetts, and New York. From their suggestions, the following outline was prepared and has been followed for the chart series:

CHARTS BY NUMBER.

- Chart 1.—Opportunities for Industrial Training.
- Chart 2.—Opportunities in Day Continuation Schools.
- Chart 3.—Opportunities for Commercial Training.
- Chart 4.—Organized Opportunities for the Physically Handicapped in Massachusetts.
- Chart 5.—Opportunities in Settlements and other Neighborhood Centers.
- Chart 6.—Opportunities in Professional Schools.
- Chart 7.—Opportunities in Art and Music Schools.
- Chart 8.—Opportunities offered by City-Wide Agencies other than Public Schools.

All but two of these charts have been issued. Number 2, "Opportunities in Day Continuation Schools", and Number 8, "Opportunities in City-Wide Agencies, other than Public Schools", are in the process of preparation.

Our fifth step under methods was to "Confer with individuals and representatives of educational organizations".

These conferences, intensive and extensive, contributed richly to our enlightenment. As a result, we have accumulated many valuable suggestions from educators and from persons outside the related organizations. Those persons who accepted our office hospitality have also contributed much and nobly shared our responsibilities.

These frequent conferences were composed of state and city authorities in education and sociology; educational experts in colleges, directors and principals of public, private, and endowed schools; governing boards of private and philanthropic organizations; and public spirited individuals.

We diligently searched for schools in directories, telephone books, and school reports. We consulted neighborhood workers, labor unions, and every other available source. Our office files are now supplied with written and printed information concerning some four hundred of Boston's educational agencies. As the work enlarged, we added new members to the committee, and assigned each one some definite responsibility.

As we worked our difficult way thru these general conditions for growth and approached the more intensive methods of chart construction, the introduction of rather large groups of persons for investigation purposes became a necessity.

The visits to schools on the first chart were made by a paid investigator. The work of investigation for all the other seventeen chart sections has been done by groups of undergraduate students from Radcliffe and Wellesley Colleges, Boston University, and the Boston School for Social Workers. The reports of these undergraduate students have in part been tabulated by graduate students, from the Departments of Education and Economics in Harvard and Radcliffe Colleges.

Altho this student work was accredited as part of the college course, it was planned by the League committee and carried on under its immediate direction. During each semester, the chairman met the students weekly in the regular college classrooms. The questionnaires to be used by the students were carefully framed in the office of the League by groups of experts for each type of education to be studied. A questionnaire was given to each student, together with former charts and all obtainable printed matter on guidance. Familiarity with all this classroom material was gradually acquired. The schools to be visited were apportioned to the students. Printed reports were obtained from these schools and given to the students. The questionnaires were answered as fas as possible from these printed reports. Letters from the League office were sent to principals and directors of all schools, explaining the purpose of the study, and asking for their cooperation. In these letters we asked the heads of the schools to receive our representative—the college student—to assist her by answering further questions than were covered in the printed report, and to verify all the facts which were to constitute the student's written report on that school.

The student then visited the school or institution one, two, or three times, as occasion required. In each case the arrangements for the visits were made by telephone. This detail was necessary, to insure the visit and to save the time of both persons.

The student's first written report consisted of answers to every question contained in the questionnaire. We obliged them to record answers to these questions in one of four possible ways:

Either:—*First*, by giving the correct information in full, as received directly from the principal; or, *Second*, by writing against the question "Answer not obtainable", if such were the case; or, *Third*, by

writing against the question "Answer refused", if information was withheld; or, *Fourth*, by writing "None" against the question—meaning that nothing corresponding to the question obtained in the school or institution.

Let me say here, that the League's relation with the colleges was reciprocal, and for the information received from the student investigations, the League was required to give systematic training to the students in civic field work. In every case, the students from the different departments volunteered, thru the professors, for the field work. The professors valued the opportunity to offer as thesis subjects a live and needed investigation which would bear fruit at once in the charts.

The method has been in successful operation for three years, and has proved effective, both as a training in civic work, for the student, and as a means of obtaining the needed preliminary information for the League charts.

The students' written reports on the visited schools were carefully marked as thesis papers. They were returned with the corrections and were re-written by the students.

Before the finished reports were finally handed in, each student was obliged to select from her written data the descriptive material in facts destined for the chart. As a guide, she was given a slip of paper about 6 x 40 inches, marked off in sections, corresponding to the chart divisions. Each section was capped by the suitable column headings, as follows:

Name and Location.	Requirements for Admission.
Purpose.	Tuition and Expense.
Courses and Subjects.	Season and Length of Course.
Allied Subjects and Special Features.	Placing of Students.

This provided each student with a transverse section of the chart she was helping to construct. Her task was to rearrange the facts as phrased in her report and reproduce the story of her school in the condensed form of "text tabulation". Each group of connected facts was to be inserted on the slip under the appropriate column heading. By these systematic method-steps, the student converted facts into form ready for chart construction.

The completed slips were brought to the office and were attached to large pieces of cotton cloth, 8 or 10 x 6 feet.

Then the principal of each school so listed, was invited to the office and requested:

1st. To accept the condensed form of text tabulation we had adopted for the chart series.

2d. To agree to such arrangements of facts as were necessary for chart uniformity.

3d. To cheerfully assent to such modifications of the story of his school as were necessary for chart purposes.

This scrutiny of our work by each school principal, created for our aid impersonal, comparative criticism.

I want to emphasize this comparative method of chart construction, as its vital and most important feature—important because of its value as a truth producing process. Auto-activity and auto-suggestion, on the part of each principal, were the two forces brought into play.

The bold and impersonal comparison of his school with others of the same type, stimulated searching self-criticism.

Before this court of self-examination, the principal as an individual ceased to exist, apart from his work. Merged with his work, both became parts of an educational unit, namely, the type of school we were endeavoring to represent. These reactions constituted some of our most valuable experiences.

We thus gained two notable results:

First, the simple truth concerning that school; and second, a desire to raise the standard of teaching in that school.

Here confronting them was a tabulated record of schools, vitally concerning them all. This investigation had been instigated by a public-spirited organization, actuated by motives above criticism or reproach.

College students in field work training had been their visitors. No inquisitiveness or curiosity could be detected anywhere. Persons whom they knew and respected—leaders in the type of education in which they were becoming experts thru experience—had framed the questions used by the visiting students. The earnest and evident desire of the League committee to do the best possible piece of constructive work provided a happy medium for the interchange of ideas.

Last, but not least, the right sort of publicity given each school, not the advertising of educational wares, became a matter of pride shared by all alike.

I have dwelt on this comparative method of chart construction for several reasons:

First—Because it quickly clears away personalities and small differences.

Second—Because, the small things out of the way, it reveals the importance of further improving the schools.

Third—Because it indicates the relationship of our study of "Opportunities" to methods of instruction, to the curriculum, and to the possibilities of placement or employment as a result of increased efficiency.

Fourth—Because it provides an orderly system for chart revision. This revising and reissuing of the charts should take place automatically as the character of the information changes or passes out of date.

The verification of information completed—the office door closed on the last school principal or advisor—the work of preparing for the printer began.

Members of the League committee studied the material with the utmost care for chart uniformity. The sections prepared by the students, from right to left, were studied in column form for the perfecting of text tabulation. Typewritten cards replaced the slip sections. When perfected, these cards were carefully numbered and lettered, according to a dummy key. The cards were then detached in order from the cotton sheet, tied in bundles, and dispatched to the printing office.

Galley proofs were sent to each member of the committee, the corrections returned, and the result of the entire process, the charts, in cardboard and paper form, were ultimately distributed.

Our method of distribution is as follows:

To all Boston public schools from the office of the superintendent.

From our own office to all contributing private and endowed schools, to selected factories, and to the addresses on our mailing list.

The charts in folder form are sent to inquiring civic and educational centers thruout the country.

At present, the mailing list outside of Boston consists of about one hundred and forty names of organizations and individuals in thirty-six different cities, representing seventeen states and Canada.

I mention our audience to show you how interest has grown in the study of opportunities for vocational training.

(*To be Continued.*)

EDITOR'S NOTE:—The unexpected demand for the Charts referred to in this article has entirely exhausted the supply. The subject matter contained in the Charts, however, with other related material, has been brought together in a 300-page volume entitled: "A Handbook of Opportunities for Vocational Training in Boston." Price \$1.25, net, postpaid. Address the Education Department, Women's Municipal League, 6 Marlborough Street, Boston, Mass.

AGRICULTURAL EDUCATION THRU HOME PROJECTS: THE MASSACHUSETTS PLAN.

WILLIAM T. BAWDEN.

IN the development of plans for training in agriculture as a vocation two types may be noted. In the one the school provides a piece of land with the necessary equipment of buildings, tools and machinery, and stock. The students gain experience in the planting, cultivation, and harvesting of crops, and in animal husbandry, to a limited extent, and receive instruction in the related subjects dealing with the proper treatment of soils, farm accounting, and so on. There is here the obvious disadvantage, as in the case of the city trade school, of a large investment in plant, equipment, and maintenance, and the additional disadvantage that during the summer months, the most important period in the year from the school farm point of view, the presence of the students is usually required elsewhere. Furthermore, it is generally necessary in the operation of a school farm to have certain portions of the work performed by laborers employed for that purpose. This means that a considerable part of the actual work is not done by the students themselves, but only observed. Consequently it is difficult to maintain uniformly practical farm conditions.

In the second plan the school deals with students who are securing their practical experience on the farm, at home or elsewhere, and offers such supplementary courses of instruction as may be practicable. The chief obstacles to be overcome are the difficulty of maintaining a sufficiently close relationship between the instruction in the school and the practical work on the farms, and the difficulty of securing on the home farms conditions promotive of the educational purpose.

In general, it may be said that the fundamental problem to be solved in agricultural education bears a close resemblance to that of industrial education. It is to avoid, on the one hand, a farm, school shop, or working laboratory in which the conditions are artificial and the problems remote and isolated, and, on the other, a home farm, or factory shop, not coordinated with the school, in which it is impossible to secure appropriate recognition of the educational purpose.

These considerations have added force when applied to agricultural education of lower than college grade. We have had colleges of agriculture for many years doing excellent work and meeting a real need.

Following the traditional trend of educational evolution, which works from the top downward, we have recently experienced a tremendous development of interest in agricultural training of secondary grade. In practice the tendency seems to be frankly to abandon the idea of meeting college entrance requirements and to consider, more definitely probably than the educator has been wont to do, the needs of those whom it is proposed to educate. This has suggested the possibility of an increasing degree of flexibility of organization. The dawning conception that the school is not a self-contained independent institution (a water-tight compartment in the ship of state, as it were) has pointed the way to a more intelligent comprehension of the factors in the problem.

In the first place, agricultural training is primarily the problem of meeting the needs of young people who are growing up on the farms and who expect to make their living there. The proportion of these boys and girls whose educational opportunities will be limited to such as are available in the immediate neighborhood must always be large, at least for an indefinite period to come. It may be safely assumed that the majority of these young people will, from the earliest practicable age, be involved personally in the productive activities of the farm. Any scheme of agricultural training designed to cover the period from 14 to 18 years of age, therefore, which is to meet the situation must take account of these facts. The plan must be capable of frequent duplication in the rural sections of a state, and it must relate its activities closely to those of the home farms.

A TRIP OF INSPECTION.

A most interesting and promising attempt at solution of these problems is being worked out in Massachusetts under the direction of the State Board of Education. At a meeting of representatives of State Departments of Education held at Staten Island, New York, this plan was described by its originator and director, Rufus W. Stimson, Agent for Agricultural Education of the State Board, Boston. So much interest was manifested by the men from the other states that Mr. Stimson invited a group of those present to accompany him on one of his trips of inspection in order to visit a number of schools in operation and to study the experiments at first hand. The party consisted, in addition to Mr. Stimson, of three representatives of State Departments of Education having charge of the work in agriculture—Layton S. Hawkins, Albany, New York; Lindley H. Dennis, Harrisburg, Pennsylvania; Lewis H. Carris, Trenton, New Jersey—and the writer of this report.

The party met at Northampton, Massachusetts, on Monday morning, June 9th, 1913, visited schools in the immediate vicinity, and proceeded thence to Hadley, Amherst, Petersham, and Northboro. The trip was made in Mr. Stimson's touring car which not only added greatly to the enjoyment of the party but also made it possible to cover more territory than could have been attempted otherwise and permitted visits to a number of the boys on their home farms. On Wednesday evening the automobile trip of over 200 miles came to an end at the Back Bay Station in Boston in time to catch the five o'clock train for New York.

THE MASSACHUSETTS PLAN.

Before referring to any of the specific experiments observed it may be well to describe briefly what has come to be widely known as "the Massachusetts plan."¹ The project and part-time plan of vocational agricultural education embodies two distinct features. One is productive farm work, supervised by a special agricultural instructor, or group of agricultural instructors; the other is study directly related to that productive work. The two together are designed to occupy five mornings or afternoons weekly for each pupil, the remainder of the time being available for such use as pupils and parents may elect. In some of the schools visited pupils were found taking regular high school subjects on the half-days not devoted to agriculture; in others there were pupils who were giving this time to other activities on the farm not under the supervision of the instructor. This part of the plan is made as elastic as possible in order to meet the needs of the greatest number. Some pupils use the free half-days for study during the winter months and for productive work during the spring and fall. Instances have been observed of boys, who had presumably left school permanently, who have been attracted back to further book study thru the interests aroused by the agricultural work.

It is assumed that, for the present at least, a morning section of ten beginning pupils and an afternoon section of ten advanced pupils, twenty in all, will occupy the entire time of the special agricultural instructor. He is expected to visit and inspect each pupil's home project at least once each week. This close personal supervision is one of the distinctive features of the plan and constitutes, at once, the explanation

¹ See *Agricultural Project Study*, Bulletin No. 4, Series 1912. Agricultural Education Service, State Board of Education, Ford Building, Boston, Mass.

of its success and the reason and justification for the small groups of pupils. The locations of the homes of the members of a class influence directly its possible maximum size. One instructor, for example, with 19 students, is obliged to travel over 50 miles in order to visit them all on one circuit.

A four-year cycle of project study has been developed by the Department and the work unified for the state. This scheme was put into effect with the school year beginning September, 1911, the agricultural school year being designated by the succeeding numeral since it is in the spring and summer of the following year that the growing season occurs. For 1912, therefore, the first year's work in the cycle, the group consisted of *Elementary Plant Projects*, including: kitchen gardening, ornamental planting, vegetables and small fruits for family or for sale, making the home attractive. The usual age of the boy at entrance upon this work is 14 years or older. The same group of projects is scheduled for succeeding even-numbered years.

For 1913, and succeeding odd-numbered years (usual age of boy, 15 years or older), the second year's work is *Elementary Animal Projects*: animal husbandry, dealing with the smaller animals, as poultry, sheep and goats, swine, bees; working for a profit.

For 1914, and succeeding even-numbered years (usual age of boy, 16 years or older), the fourth year's work is *Advanced Animal Projects*: animal husbandry, including dairying and general farm management; agriculture as a business.

For 1915, and succeeding odd-numbered years (usual age of boy, 17 years or older), the third year's work is *Advanced Plant Projects*: fruit growing, orcharding, market gardening, growing fruit and vegetables for sale.

It will be noted that after the plan is once entirely in operation the first and fourth year work will be offered in each even-numbered year and the second and third year work will be offered in the alternate years. In addition to the stated projects planned for supervision in any given year, pupils are encouraged to carry out other unsupervised projects on their own account, especially such as may have originated in a previous year's work. Thus a boy who developed a vegetable garden under supervision in 1912 is encouraged to continue it in 1913 entirely on his own responsibility while proceeding with a poultry project under supervision; and so on.

SELECTING THE PROJECT.

In approving the individual projects proposed by, or assigned to, pupils the instructors are advised to "suit the size of the project to the capacity of the pupil, and then require good work". The aim is to make the project big enough to require real determination and effort, important enough to insure continued connection with the school because of real need for supervision and help, and of such proportions and promise as to arouse enthusiasm. At the same time the instructor must not permit a boy to undertake more than he can carry out in a thoroly workmanlike manner.

The work is organized about what Mr. Stimson calls "the three R's" of agricultural study by the project method: "Rules", "Reasoning", and "Broader Results". By *rules* is understood the plans and specifications, which, however simple in outline, and whether on paper or in the mind, are necessary for the intelligent execution of any piece of productive work.

Reasoning is the product of study and experience, the formulation of scientific principles, upon which the rules are based. The larger educational efforts of the instructor are to be directed toward training the boys in the discovery of the laws of nature which underly successful work, looking toward the development of a degree of initiative and managerial ability and not merely capacity to work under the direction of others.

Under *broader results* is included informational material of many sorts—statistical, commercial, geographical, historical, scientific, social.

ORGANIZATION OF DAILY SESSION.

As already noted, the classes report to the agricultural instructor at the school for half-day sessions daily. The session begins and ends at the same time as that of the regular school, so that the members of the class pass in and out of the building with the other pupils, and cause no disturbance of the routine of administration. The first period is devoted to an "Agricultural Survey", at which time there is discussion of problems assigned at the previous lesson, and a concerted study of agricultural production and rural life. Mann's *Beginnings in Agriculture* is used as a text, emphasis being placed in alternate years on those portions dealing with soils and plant life, and animal life, respectively. The second and

third periods are given over largely to individual study, with library, laboratory, or other assignments. During this time the necessary computations on individual projects are made, and notebooks carefully written up. The method is the maximum of personal, individual instruction,

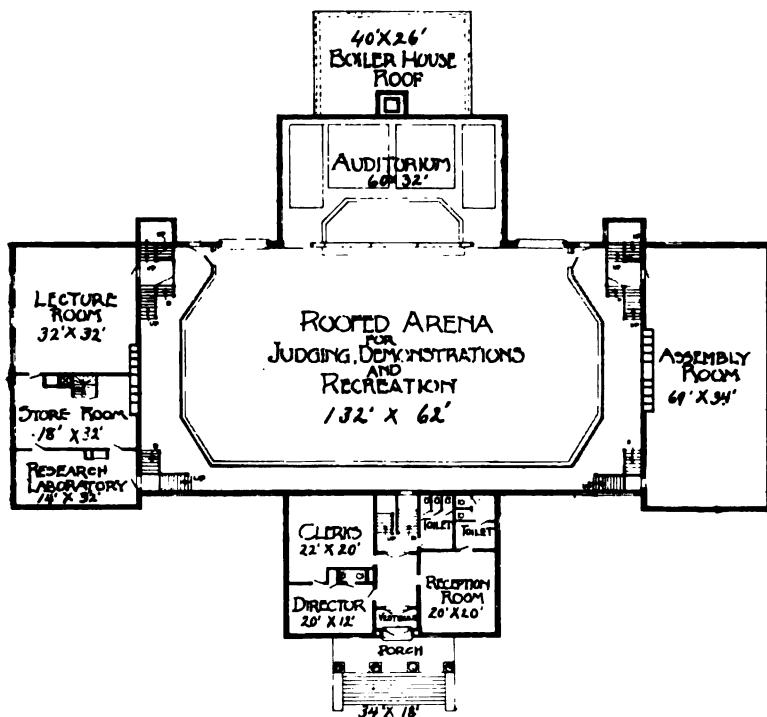


FIG. 1. SMITH'S AGRICULTURAL SCHOOL, NORTHAMPTON. FIRST FLOOR PLAN OF MAIN-BUILDING. BY UTILIZING THE CORNERS OF THE ARENA FOR STAIRWAYS, THE ENTIRE FLOOR SPACE IN THE WINGS IS AVAILABLE FOR SCHOOL PURPOSES.

the instructor going about from student to student as in a shop or drafting room.

The last period in the session is reserved for the "Round-Up", the purpose being to subject individual ideas and plans to class criticism and thus to clarify principles and intensify impressions. "The value of closing each day's work with this class discussion grows out of the fact that tho each has been working upon his own particular project, all have been working upon the same sort of project, at the same time; as, for

example, lettuce as a kitchen garden crop." The "Round-Up" has been developed, therefore, as a device for keeping all in touch with what each is doing, and for driving home the lesson that general rules must be adapted to particular situations.

While the distribution of time just indicated is characteristic of the normal session of a class, it is to be noted that the schedule is constantly being interrupted in the cases of individual students. When the time comes for plowing, or planting, everything else yields to the exigencies of the actual farm work. Thus half the class, who are putting in fields of corn for the contest, may be absent for three or four days in succession at certain stages. The boy who is bringing along a good sized poultry project may be allowed two days off in order to complete the building of his houses and enclosures before the chicks are hatched.

A SUGGESTIVE PROJECT STUDY OUTLINE.

The class work begins in September in preparation for the growing season which begins the following spring. Consequently there is ample opportunity for a thoro study of the projects to be undertaken, and for careful planning in advance of every detail of the actual work. Every instructor prepares an outline of each project study taken up with his class, and after working it over carefully, files a copy with the office in Boston. The outlines thus prepared are modeled after suggestive outlines printed by the state, and form a part of the evidence upon which the Agent of the State Board bases his approval for state aid. From the best of the material in the outlines submitted, composite outlines are being prepared which will be available for distribution thruout the state for the guidance of instructors and as examples of "approved" schemes. They will also be utilized as a means of constantly raising the standards of the work in all parts of the state.

The first of these Bulletins² contains two excellent outlines by Mr. Stimson, one on "Kitchen Gardening", and one on "Lettuce Growing". The plan is to give to each instructor due credit for contributions used in the future in compiling and arranging the outlines for publication.

As illustrative of the character of the work undertaken in class, it will be interesting to note here the main topic headings in the outline on

² See *Project Study Outlines for Vegetable Growing*, Bulletin No. 5, Series 1912. Agricultural Education Service, State Board of Education, Ford Building, Boston, Mass.

"Kitchen Gardening". The headings are listed as "Guiding Questions for Planning This Project":

1. Shall you grow vegetables?
2. Where shall you grow them?
3. What kinds shall you grow?
4. What quantities shall you grow?
5. Shall you map your garden?
6. How and when shall you prepare your land?
7. Shall you use lime?
8. How deeply and thoroly shall you pulverize your vegetable soil?
9. Plant how?
10. Cultivate how?
11. How gather, care for, and dispose of product?
12. What accounts shall you keep of your gardening project?

The further careful analysis of the problems involved may be suggested by selecting one of these questions and reproducing the "Guiding Questions for Studying and Understanding This Project". Under Question No. 5, "Shall you map your garden?" these are as follows:

1. Advantages of, and materials for, making a garden plan?⁸ 25: 8, 24-28, 42; 27: 21, 23, 25; 271: 279-284; 753: 324; 876: 61.
2. What scale shall you use? What is "drawing to scale?"
3. Shall you show the points of compass? Why? 876: 61.
4. Which way shall the rows run, lengthwise or crosswise? 276: 31-32.
5. Shall the rows run north and south? Why? 25: 8-11.
6. Shall your plan show such double cropping as you have decided upon? What is double cropping? 39: 475-489.
7. In what part of the garden shall you put low-growing, and in what part high-growing plants?
8. Shall you observe strictly the rules of "rotation" in locating your deep and shallow rooted plants?
9. What are some model kitchen garden plans? 11: 8-9, 451-454; 13: 7-8; 16: 2-28; 25: 11-14; 27: 21, 23, 25; 31: 20-21; 276: 33, 37, 39, 41.

TYPES OF SCHOOL.

After this hasty and imperfect sketch of the plan itself, it is in order to glance briefly at the schools visited on this trip.

⁸ The numerals are references to works listed in a 48-page *Agricultural Project Bibliography*, Bulletin No. 6, Series 1912. Agricultural Education Service, State Board of Education, Ford Building, Boston, Mass.

The first is Hopkins Academy at Hadley, a village of about 2,000 inhabitants, under the principalship of Franklin E. Heald, which three years ago introduced a four-years' vocational agricultural course. By thus attempting to adjust itself more closely to the needs of a small community in which farming interests were at least equal in importance to those of higher education a most interesting transformation has been wrought in a typical traditional New England classical academy. The records show that under the old conditions the proportion of entering students graduated reached the low-water mark of forty per cent, whereas last year it was eighty-eight per cent.

The work in the agricultural course is of secondary grade and it is regarded as desirable, tho not absolutely essential, that pupils shall have completed the work of the elementary school. There are 20 boys in the school of whom 12 are taking the course in agriculture. The instructor is E. J. Burke, a graduate of the Massachusetts Agricultural College. The students of the first two years meet the instructor in the morning and of the last two years in the afternoon. Practically all of the boys spend their free half-days in taking the regular academic subjects planned for the course, which is as follows, the numerals indicating number of periods weekly:

- 1st Year: Agriculture, 20; English 5; general science, 3; social science, 3.
- 2nd Year: Agriculture, 20; English, 4; biology, 5.
- 3rd Year: Agriculture, 20; English, 4; chemistry, 5.
- 4th Year: Agriculture, 20; English, 4; physics, 5.

The school is not large enough to make practicable special classes in science and English for the agricultural students, so the simple plan has been adopted of enrolling them in the regular classes. Whenever the home project work requires the entire time of a pupil he is excused from all classes temporarily. One small classroom, with no special equipment, has been set aside for the work in agriculture. The school grounds include space for demonstration plots, and a small orchard which has been used as a laboratory for the study of spraying, grafting, etc. The land and orchard are not essential parts of the scheme, however, so that it could be duplicated in any village or rural high school situated within reach of boys living on the farm.

The second type of school visited is the Smith's Agricultural School at Northampton. The feature of this school that interested the visitors most is its unique architecture. The accompanying illustrations suggest how admirably the building is adapted to its purpose.

By placing four building units so as to enclose a rectangle of suitable dimensions, Fig. 1, and roofing over the enclosed space, an "arena" is provided which serves a number of distinctive purposes. See Fig. 2. The auditorium, with its raised seats, is so situated as to command a view of the enclosure when sliding partitions are lifted. On Wednesday,



FIG. 2. A CLASS IN CORN JUDGING IN THE ARENA. BY RELEASING THE CHAINS THE TABLES MAY BE SWUNG DOWN, TO FORM A PROTECTION FOR SPECTATORS WHEN THE ARENA IS USED FOR ATHLETIC GAMES, EXHIBITS OF LIVE STOCK, ETC.

May 28, 1913, a horse show was staged which lasted thru the afternoon and evening. Prize ribbons were awarded for exhibits in 17 different classes. The boys put up a tent and built temporary stalls in the rear of the building to shelter the animals and the arena afforded an ideal place for the exhibits, Fig. 3. The display included single and double teams of draft and driving horses, boys and girls riding in the saddle, Shetland ponies driven by children, and fast horses.

An expert from the Massachusetts Agricultural College was present to assist in judging the exhibits, and, as part of the evening program, an official announcer drew attention to the fine points of the various winning horses. At appropriate times the prize horses were led before the audience and the practical demonstration of horse judging was made

complete. There was no lack of fine horses, as exhibits were entered from near-by stock farms and even from as far away as Springfield.

Concerning the school itself the following statements from the announcement are explanatory:



FIG 3. A PORTION OF THE ARENA AS SEEN FROM THE AUDITORIUM.

The institution has three affiliated schools: School of Agriculture, Girls' School of Industries, and Boys' School of Industries. The different trades and occupations taught in the school are known as Departments. The Boys' School of Industries already has a Department of Cabinet-Making, and a Department of Machinists, and is considering the advisability of establishing a Department of House Carpentry. The Girls' School of Industries already has a Department of Homemaking, and is considering the advisability of establishing a Department of Sewing and Dressmaking.

The industrial work of each Department is in the hands of trained and competent workmen. In all cases these workmen are taken from active life rather than from the teaching profession. In addition to the expert workmen found in the industrial work, experienced teachers have charge of the students in their non-industrial work in English, history, citizenship, science, etc.

The work of the students falls under three heads with the following time allotment: productive work, 50 per cent; subjects closely related to the productive work, 30 per cent; subjects that prepare for citizenship and leisure, 20 per cent. While not slavishly followed this is regarded as the best distribution of a student's time that we can make in the present status of vocational education.

The school is available for any boy or girl between the ages of 14 and 25. No educational qualifications are demanded. Boys and girls who have not completed the 7th grade find the work exacting. They are not, however, excluded from the school until they demonstrate their inability to do the work. No student is allowed to remain in the school who does not come for the purpose of learning a trade or mastering an occupation, or who does not show sufficient ability to master the requirements of the industrial part of his work.

In a word, the institution is for any boy or girl at least 14 years old who does not, for one reason or another, intend to continue in the regular public school, and who wants to fit himself or herself for earning a living in an occupation or trade. The school does not aim to fit its pupils to meet the examinations of other educational institutions.

The director of the school is Dr. Herbert N. Loomis; Thomas Bradlee is in charge of the agricultural work; Walter S. Graffam is head of the Boys' School of Industries; and the work for girls is under the direction of Miss Mildred J. Taylor and Miss Catherine A. Murray.

The third type of school visited is the consolidated rural school, with high school department, at Petersham. This school is out in the open country, 10 miles from the nearest railroad, and occupies a beautiful site of about 10 acres on a hill-top. The equipment of the school includes a greenhouse 20'x30'. The principal is F. D. Reed, and the director of the agricultural work is L. B. Boston.

When the visitors entered the room the class in agriculture was at work upon a very practical problem in balanced grain rations which grew out of a letter which the instructor had received the day before. The letter was from a neighboring farmer and read as follows:

I am uncertain as to what is the best grain ration to feed my three cows, and any information along this line would be appreciated. They are in a rather poor pasture, and I am at present feeding grain as follows:

"Spot," a grade Holstein calved March 4th, April milk yield 1,075 lbs., May, 1,175 lbs., at present giving from 33 to 36 lbs. per day, gets 2 lbs. cottonseed meal, 4½ lbs. corn meal, 4½ lbs. wheat bran per day.

"Daisy," a brown Jersey due to calve July 8th, giving about 12 lbs. milk per day, gets 2 lbs. bran and 2 lbs. corn meal per day. This cow will be dried off within a couple of weeks, but I would like to know how to best handle her when fresh next month.

The third cow is of no particular breed, that I know of, was fresh last September and due to calve next September, giving 15 to 18 lbs. of milk per day now; she gets 2 lbs. corn meal, 2 lbs. bran, and 1½ lbs. cottonseed per day.

I am selling whole milk to one of my neighbors at 40 cents per 8½ qt. can, and want as cheap a grain ration as possible to produce a large flow of milk.

Working from the given data the class prepared a statement of the proper methods of feeding together with an estimate of the probable financial return. It would be difficult to find a more suggestive example of the ways in which the present day school is recognizing and meeting its opportunities for social service, utilizing them at the same time for the maximum of educational values.

In this school, as in the others described, the agricultural instructor devotes his entire time to two sections of students, a beginning section in the mornings, and an advanced section in the afternoons. A boy may take this work only, spending the rest of the time on the farm; or, on his free half-days he may elect one or more of the regular high school subjects.

The fourth school is that at Northboro, under the direction of John H. Fag. It is in successful operation without any land for laboratory purposes. Class study is carried on in a vacant store rented for the purpose, and all projects are carried out on the home farms.

INDIVIDUAL PROJECTS DESCRIBED.

The following is the very interesting record of Chester Spinney, Petersham school, for the summer of 1912: vegetable garden, $\frac{3}{4}$ acre, net profit, \$44.35; credited self for labor, \$12.00; gross return, \$56.35; this vegetable garden constituted the "project" which he carried on under school supervision. In addition, he set out and cultivated 1,000 strawberry plants; raised one acre of corn, and $\frac{1}{2}$ acre of potatoes; plowed and planted one acre of millet, and $\frac{1}{2}$ acre of buckwheat; cared for 3 cows, 1 horse, and 50 hens. Chester's father was incapacitated by an accident, so that the boy did all the work that was done on the home place that summer. A careful account was kept of work performed and produce sold, which showed that he was entitled to a credit of \$164.60 for this non-project work. Thus the grand total of return for the project period, which included the growing and the harvesting seasons, was \$227.03.

During the present season, 1913, Gordon Nightingale, also at the Petersham school, is undertaking as his "project" the care of 4 dairy cows, raising 3 calves, 2 pigs, and 175 chickens. He is keeping careful records of the feed consumed, the amount and quality of milk produced, and eggs and chickens marketed. Besides this school-supervised work, he has assumed the responsibility of $\frac{1}{2}$ acre of vegetable garden,

Regular Worker's Daily Time Sheet

<i>P. A. H. S.</i>	<i>C. S. Nightingale</i>		
Name of School or Department	Name of Parent, Proprietor or Sup't.		
<i>Petersons</i>	<i>Petersons</i>		
Location	Home Address		
Day of Week: <i>Sat.</i>	Date <i>May 3, 1913</i>		
KIND OF WORK Includes Implements used number of loads, etc.	FIELD	MAN HOURS	HORSE NO. HOURS
4.30			
5.00			
5.30			
6.00	<i>Care of 4 cows & calves (Project)</i>	<i>1 1/2</i>	
6.30			
7.00	<i>Care of horses</i>	<i>2</i>	
7.30	<i>Watering trees</i>	<i>2</i>	
8.00	<i>Inspecting trees</i>	<i>2</i>	
8.30			
9.00	<i>Planting trees</i>		
9.30			
10.00	<i>Father worked</i>	<i>A. 8</i>	<i>= 4</i>
10.30	<i>Burgess harvested</i>	<i>4</i>	
11.00	<i>dish know</i>		
11.30	<i>(Project)</i>		
12.00			
12.30	<i>Dinner</i>		
1.00			
1.30	<i>Planting trees</i>		
2.00			
2.30			
3.00	<i>Father & Burgess worked</i>	<i>12</i>	
3.30			
4.00			
4.30	<i>(Project)</i>		
5.00			
5.30	<i>Care of 4 cows & calves (Project)</i>	<i>1</i>	
6.00	<i>Care of horses</i>	<i>2</i>	
6.30	<i>Watering trees & cutting muck</i>		
7.00			
7.30	<i>Supper</i>		
8.00			
<i>Garrison, Nightingale</i>		TOTAL HOURS <i>28 1/2</i>	<i>2</i>
STUDENT	REPORT O. K.		
REMARKS	P., P., or Sup't.		
	<i>L. A. J. Instructor.</i>		

FIG 4. DAILY TIME SHEET. EACH PUPIL KEEPS A RECORD OF EACH DAY'S WORK IN A BOOK PROVIDED FOR THE PURPOSE. A CARBON COPY IS DETACHED AND FILED WITH INSTRUCTOR. A REVISED FORM OF REPORT IS NOW USED WHICH IS EASIER TO FILL OUT AND CONTAINS DATA NOT PROVIDED FOR IN THIS ONE.

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and 1 acre of corn; he set out in the spring an orchard of $3\frac{1}{2}$ acres, 345 trees of 3 varieties of apple, and between the rows of young trees is raising crops of corn, turnips, and mangels. Fig. 4 shows one of Gordon's daily reports.

In 1912, Albin Anderson, a pupil at the Northboro school, undertook as his project 1/6 acre of potatoes, his father at the same time putting in a crop of $3\frac{1}{2}$ acres. Both sprayed with arsenate of lead to protect the growing plants from the potato-bettle. In addition, as a result of what was learned in school, the boy sprayed with Bordeaux mixture in July in the effort to control blight. The father, however, could not be persuaded that the extra labor was worth while, the usual decrease in the potato crop in this section due to blight being regarded as inevitable. At harvest time the boy's methods were more than vindicated by a good yield, of excellent quality, while the plants in the father's entire field were killed early by blight and the yield was markedly deficient.

In this connection it may be appropriate to refer to another instance of a school's contribution, thru its teacher, to the solution of practical farm problems, the details of which came to the attention of the Agent of the State Board. It happened one day that a valuable horse was severely gored in the flank by a vicious cow. There was no one about the neighborhood who could care for the wound and in fact its seriousness was not fully realized at the time. It seemed to be necessary that the horse be kept at work, and this, with the warm weather, soon produced a condition of fever, swelling, and suppuration, and the farmer realized that he was threatened with the loss or disablement of a valuable animal. About this time the agricultural instructor came to visit the boy's project, and noticed at once the critical condition of the horse. He secured some silk thread from the farmer's wife, and suture needles from his kit, prepared an antiseptic solution, and with the assistance of the boy and his father treated the wound. He then instructed the boy in the proper care of the wound, and in a few days it healed perfectly. The farmer informs his neighbors now in no uncertain terms that "that young fellow they've got down there to teach farming *knows his business*".

In the school at Northboro an experiment in fattening chickens for the market was undertaken as a class project in October, 1912. Each of the eleven members of the class brought in four chickens. These were all spring cockerels, culls from flocks, that were not considered

suitable for carrying thru the winter. The fattening of these birds for the market, therefore, was one of the normal problems of the poultry raiser.

Crates were built in which the birds were confined during the time of the experiment. They were fed twice daily, at 7 a. m. and 7 p. m., all they would eat of a batter made of cornmeal and wheat middlings mixed with skimmilk. Thirty minutes daily for the 18 days were required for the work of feeding, 2 hours for weighing, and 6 hours for killing and dressing; total labor, 17 hours. The following is a table of the cost items, labor not being considered:

Grain 175 lbs. at \$.0175	\$3.07
Skimmilk, 11 cans, at \$.15	1.65
Leg-bands, for identification of birds35
Use of crates, 10% of cost40
<hr/>	
Cost to feed 44 chickens	\$5.47
Cost to feed one chicken13

Each pupil kept a careful record thruout the progress of the work and performed the necessary computations to determine the profits realized. Such an experiment, besides training in methods of procedure, should throw light on the conditions under which it pays to fatten for the market and when it is better business to sell without the labor and expense of fattening. The opportunities for related work in mathematics and language are sufficiently obvious.

CONCLUSIONS.

It would be easy to extend indefinitely this description of projects, but it is believed that enough has been presented to indicate something of the practical utility as well as the absorbing interest of the work. To keep this account within reasonable limits it must now be brought to a close with a brief summary of the important considerations that come to the mind of the critical observer of the Massachusetts plan.

1. *High per capita costs.* Creative work of the type observed in these schools means the maintenance of a high level of enthusiasm on the part of the workers as well as constant intimate contact with the very practical and vital economic problems of farming. In common with creative work in any other line of endeavor, it demands men of more than average energy and initiative. Under existing conditions of

supply and demand it has been impossible to find instructors with the necessary qualifications for this work at anything like the prevailing rates of salaries for teachers. In the schools visited on this trip the salaries of the agricultural instructors range from \$1,000, for one in his first year on the job, to \$1,900. In more than one instance the agricultural instructor is paid more than the principal of the school. As already noted, each such instructor is expected to devote his entire time to approximately 20 students.

It is necessary to face squarely the objection that education under these conditions is expensive. It would certainly be so esteemed in certain parts of the country, for example, where the people are accustomed to paying teachers in the rural schools \$500 or less. The decision that a proposed course of action is expensive, however, must rest upon other considerations than a mere statement of costs in dollars and cents; such as, What returns from the expenditure can be shown? What will be the results of adopting the alternatives of doing without or managing in some other way? How badly is it needed?

Here is found the justification for state aid. After it has been established that the proposed form of education is important and necessary, it still fails of being put into effect in many places because the extra burden is too great for the community to assume. But, the expected advantages are not to be confined to the community, hence the state is justified in encouraging the needed development by financial assistance. According to the terms of recent legislation in several states, the state pays two-thirds of the salary of the teacher, or one-half of the operating expenses (substantially the same amount of assistance), and thus reduces the burden to a point where the community can properly assume it.

It is to be remembered, further, that these teachers are employed on a 12-month's contract, which allows one month's vacation and requires each teacher to spend two months, during the winter, in "professional improvement" preparing for increased efficiency. This study is done under the supervision of the State Agent. The instructor is, of course, on duty all the time during the planting, cultivating, and harvesting seasons.

2. *Agricultural education an investment, not an expense.* Without doubt there are localities where the duplication of the Massachusetts experiment would be rank extravagance, or possibly waste of public money. The indiscriminate introduction of such work everywhere

would be a most unreasonable proposal. The present tendency, however, gradually coming to consciousness, is to regard money devoted to education as essentially of the nature of investment rather than expense. When this view is applied to agricultural education, in common with other forms of vocational education, its significance is more easily grasped than in the case of general education. And it is not necessary in making this statement to contend that the general proposition is any more true in the former case than in the latter because it is easier to see it and to demonstrate it.

3. *Practical nature of the work.* The feature of the plan that most impresses the visitor is the practical nature of the work undertaken. The instructor is a master of real farm work, and, with his students deals directly with live farm problems and not with artificial experiments in a school garden or laboratory.

4. *A sane point of view.* The members of the visiting party were unanimous in expressing their approval of the fundamental principles upon which the Massachusetts plan is based. The entire experiment rests upon a strictly vocational basis. No boy is admitted to one of these classes who does not actually live at home upon a farm, or who is unable to arrange to do productive farm work, since parent or guardian or employer must guarantee to the school that the boy will have unrestricted control of the piece of land, flock of poultry, or other agreed-upon conditions of the proposed project. The amount of time to be allowed for the work is also expressly understood.

The instructor, up to the limit of his ability, takes a fatherly or brotherly interest in many vegetable and flower gardens in the neighborhood; he acts in an advisory capacity to as many of the agricultural undertakings of grammar school boys and girls as he can reach; but this is all on the side. If the State Department would recognize such work, and give the necessary authorization for such supervision, it could greatly reduce the per capita costs. But it has deliberately decided to limit itself, so far as formal recognition is concerned, to work of an intensive kind with boys and girls who have definitely chosen to undertake real responsibilities and who are mature enough to profit by the experience.

In thus limiting formal recognition to supervision of boys and girls who have definite plans for farm work, the Board does not intend to minimize the importance of school garden work and other similar enterprises among the elementary school children. While such work

cannot be regarded as strictly vocational, it does have great prevocational or avocational values. In order to conserve all these values efforts are constantly being made to stimulate and direct the activities of the regular teachers and the cooperation of interested groups of citizens. Help is offered in the planning and conducting of growing prize contests and public exhibitions under school auspices.

So far as the instructors are concerned, there is constantly kept in mind the aim of systematically becoming acquainted with the best types of farming in the community, and then of exercising a helpful influence in those districts where it is most needed. Every effort is made to promote more permanent tenure of position on the part of the teacher and genuine interest and pride in the locality which he is trying to build up. In this work, as in all school work, the disastrous effects of a constantly changing teaching population constitute almost the worst obstacle that must be contended against.

5. *Supervision of unusual efficiency.* The master mind and the source of inspiration in this whole movement is the State Agent. More than once the visitors were witnesses of his skill in meeting and utilizing situations as they arose. The instructor may be with the Agent for several hours as they go about together in the automobile visiting each boy at his project. This time is spent in earnest consultation about the details of the work, in the giving of advice and suggestion, and in conveying some message of encouragement from a successful project under way elsewhere, and finally in the necessary criticism and correction of mistakes. The State Agent is constantly in touch with the boys and their parents, upholding the hands of his instructors, and with the school trustees and members of advisory committees, inspiring them with appropriate commendation and with accounts of the achievements of other districts.

The value to the teachers of the continual object lesson in sympathetic expert supervision can hardly be overestimated. So far as the members of the visiting party are concerned, it was agreed that this was one of the most helpful suggestions carried away from the entire trip.

6. *All problems not yet solved.* The reader should not gain the erroneous impression that a perfect system has been evolved and that but little remains to be done but to transplant it. There are plenty of unsolved problems; that is why the work is so interesting. High per capita costs, the conservatism of rural populations, the difficulty of securing and retaining efficient teachers, the perfecting of machinery and

methods—these and other problems will continue to demand thoughtful study. Even the boys and girls present problems of their own in the rural school as in the city school. Every instructor in vocational subjects will be able to sympathize with the agricultural instructor who finds the progress of his work impeded by the necessity of dealing with the boy who just wants to try it to see what it is like and the boy who discovers other interests as soon as it appears that the new kind of school means real hard work.

7. *The experiment making good.* If it would be misleading to leave the impression of achieved perfection, it would, on the other hand, be unjust to withhold commendation of the plan as a whole. It is not necessary for the visitor to take the instructor's or the Agent's word for it, he can observe for himself that the new kind of school is training in vocational efficiency, is developing boys and girls of energy and initiative, is fostering a spirit of independence and perseverance, and is accustoming young people to the experience of successful coping with real difficulties.

The work of these agricultural schools and departments is principally with boys and girls who have discontinued their work in the regular schools or who have indicated a desire for some form of training other than that preparing for higher schooling. In making successful men and women out of boys and girls whose needs have been met only in part by the existing schools, and in providing a training in vocational efficiency, with due regard to social responsibilities, for those who cannot utilize the traditional high school and college education, the agricultural school is meeting genuine social needs.

THE QUESTION OF AGRICULTURAL EDUCATION IS, HOWEVER, IN THE LAST ANALYSIS MORE THAN ECONOMIC. WE NEED IT NOT SO MUCH THAT WE MAY RAISE MORE CORN AND WINE, BUT THAT WE MAY RAISE BETTER MEN AND WOMEN IN OUR COUNTRY DISTRICTS. ANY WORK IS TO BE JUDGED RATHER BY THE HUMAN BEING IT DEVELOPS THAN BY ITS MATERIAL OUTPUT.—Ruth Mary Weeks.

PATTERN-MAKING—HOW AND WHAT TO TEACH.

F. D. CRAWSHAW AND JAMES M. DORRANS.

PATTERN-MAKING is often called the "high art" of wood-working. It is without doubt the branch of woodwork construction which requires a knowledge of the largest number of industrial occupations. Carpentry and cabinet-making, for example, are practically self contained so far as knowledge sufficient to make one a proficient workman in either of these lines of work is concerned. True, the carpenter or cabinet-maker must have some knowledge of mathematics, and must be able to read drawings if he expects to become an expert in his trade. It is not necessary, however, that he should know even the elements of any other trade.

The same can not be said of the pattern-maker. Besides a knowledge of some mathematics, and an ability to read and make mechanical drawings, he must have a fair knowledge of the foundryman's business, and should also have some experience in foundry practice. It is not so necessary that he should be equally well equipped in machine-shop work; not necessary even that he should know the operations common in machine-shop work, if he expects only to be an average pattern-maker, but such a knowledge is a valuable asset in his trade. If, however, he expects to reach the goal of a pattern designer as well as a pattern-maker, he will find himself handicapped if he has not worked at the machinist's trade.

This was not always so, however. Until about the middle of the last century, the millwright was the jack of all mechanical trades. Gradually, as manufacturing developed and a division of trades was made necessary, the millwright was found incompetent to make patterns for intricate castings, and for this better class of work men were trained for the pattern-maker's trade.

A statement made recently by the pattern-shop foreman in a large manufacturing establishment which regularly employs one hundred or more pattern-makers, summarizes very well the needed qualifications of a good pattern-maker—one who aspires to the highest place in his trade.

The pattern-maker is, first of all, an intelligent man. When he has worked at his trade a few years he is an educated man in the best sense of the word; he knows his business. This means that he knows how to use arithmetic, a little



FIG. 1. DEMONSTRATION BENCH.

of algebra, geometry, and the fundamentals of trigonometry. He is a practical draftsman, for he must lay out on the pattern board intricate pattern drawings. To do this an ability to read and thoroly to understand a machinist's drawing is necessary. This he is often called upon to make; then he is a designer as well as draftsman.

GENERAL WORK AND PRINCIPLES.

He must know not only the details of the molder's trade, but he should have had, also, some experience in molding, otherwise he cannot make patterns which will produce the required castings and at the same time save the molder unnecessary work and the manufacturer needless expense. Besides all this knowledge and practice, he must, if he is a master of his trade, be a machinist, or at least know how the machinist does his work.

It goes without saying that he must be a cautious, painstaking, accurate, and labor saving woodworker. If he has all of these qualifications, he is a man of foresight and judgment. Such personal characteristics are most valuable for he is constantly required to solve new problems in the most practical and economical way. "His trade is never learned."

One may easily judge after reflecting upon the full meaning of the quotation, that it is not an easy task to teach pattern-making. It is a subject which demands a high standard of technique, in both machine and bench woodworking; a knowledge of a number of allied trades, and the power of visualization to a high degree.

Before an individual pursues a course in pattern-making, he should study mathematics, mechanical drawing, and have practice in foundry work, and the use of general woodworking tools. However, an apprentice in pattern-making may acquire knowledge and practice in these branches of shopwork while he is learning his trade. Machine-shop work may be taken up after he is well advanced in pattern-making.

For high school students, pattern-making offers practice in an advanced form of woodworking, and among shop subjects, offers one of the best opportunities for intellectual development. The course of study should be one which is developmental. It should make use of patterns which emphasize the *elements* of pattern-making in some rather definite order, such, for example, as the following:

1. Shrinkage and draft.
2. Draft and finish.

3. Green sand cores.
4. Easy vertical cores.
5. Easy horizontal cores and split patterns.
6. Difficult cores involving two half-core boxes.
7. Loose piece and part patterns.
8. Segment building and spoke patterns.
9. Gear wheel patterns.
10. Patterns involving the combination of foregoing elements in a small project.

For vocational school students, pattern-making offers the same advantages as those given for high school students. In the vocational school, however, a greater emphasis should be placed upon economy of time and effort in production. All patterns should be estimated for time and cost in making. A longer period of time is needed for a course, and it should be developed more slowly and in greater detail. *It should be taught as a vocation.* The best methods in commercial practice should be used by a teacher who has had commercial pattern-making experience. All patterns made should be those, if possible, which will produce castings for shop use. It will be difficult, therefore, to follow, without variation, some order of development such as the one suggested above; but in so far as it is practical this should be done.

If one is to study pattern-making for its vocational value he should use an equipment which he will later need as a tradesman. Besides the ordinary woodworking machines, including a good pattern-maker's lathe, the following is suggested as a suitable individual and general bench equipment.

INDIVIDUAL EQUIPMENT.

- Bench, equipped with a good, quick-acting adjustable-jaw vise.
- 1 Jointer-plane.
 - 1 Jack-plane.
 - 1 Hammer.
 - 1 Shrink rule (iron).
 - 1 1" Chisel.
 - 1 ½" Chisel.
 - 1 Marking-gage.
 - 1 Screwdriver.
 - 1 9" Combination square.
 - 1 Oilstone.
 - 1 Oiler.
 - 1 Scriber or knife.

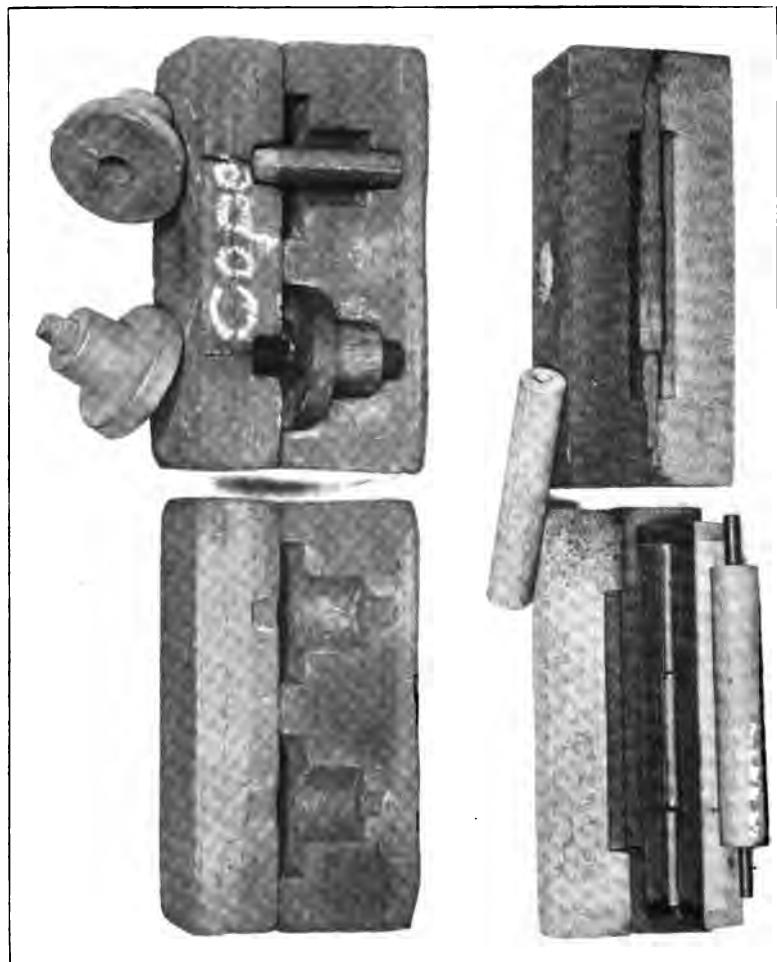


FIG. 2. A PATTERN CORED VERTICALLY.

FIG. 3. HORIZONTAL CORING.

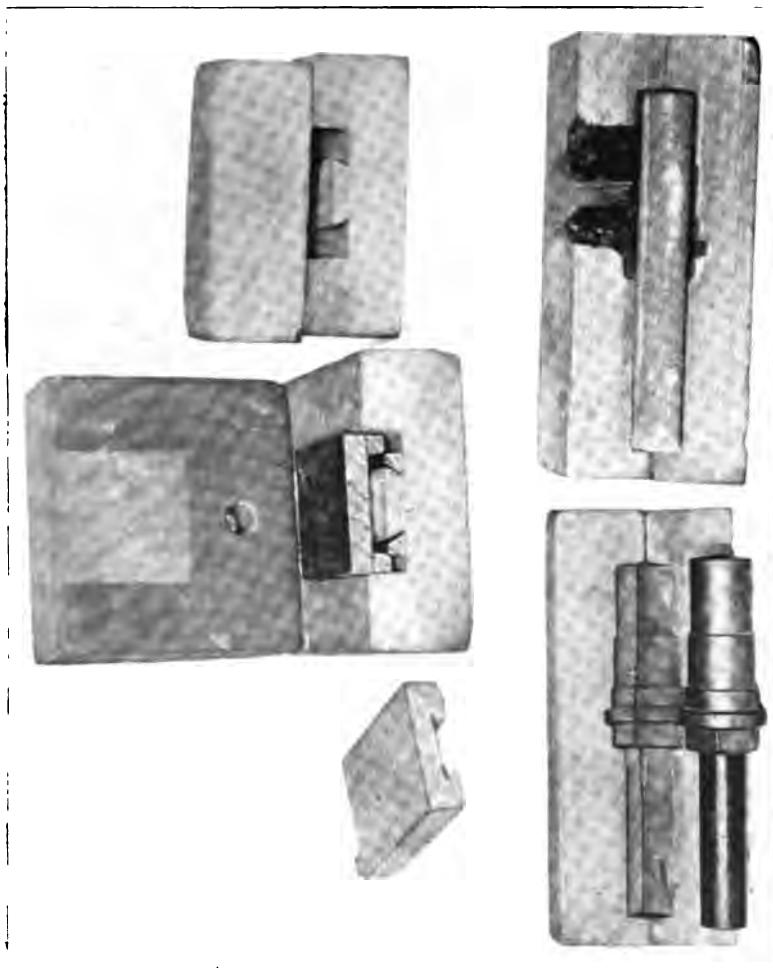


FIG. 4. MOLDING A LOOSE PIECE PATTERN.
FIG. 5. PATTERN WITH BALANCED HORIZONTAL CORE.

- 1 Ratchet brace.
- 1 Pair 8" dividers.
- 1 Each 1-8", 5-32", 3-16", 7-32", 1-4", twist-drills.
- 1 Nailset.
- 1 Back-saw.
- 1 Duster.

GENERAL EQUIPMENT.

- 2 Bench trimmers.
 - 3 Smooth-planes.
 - 3 Block-planes.
 - 2 Crosscut-saws.
 - 2 Rip-saws.
 - 1 Shrink rule (brass)
 - 2 1¼" Chisels.
 - 2 ¾" Chisels.
 - 2 ⅓" Chisels.
 - 2 ⅔" Chisels.
 - 2 ⅕" Regular sweep inside gouges
 - 3 ⅖" Regular sweep inside gouges
 - 3 ½" Regular sweep inside gouges
 - 3 ⅗" Middle sweep inside gouges
 - 3 ⅘" Middle sweep inside gouges
 - 2 1" Flat sweep inside gouges.
 - 1 ⅔" Regular sweep outside gouge.
 - 1 1" Middle sweep outside gouge.
 - 1 1" Flat sweep outside gouge.
 - 1 Each, short bend gouges, ¼" No. 30, ⅓" No. 30, ½" No. 30, ⅔" No. 28.
 - 6 Screwdriving bits.
 - 1 Set auger-bits in case.
 - 6 Pair 6" outside calipers (with adjustment).
 - 6 Pair 6" inside calipers (spring).
 - 3 Spokeshaves (iron, 2" blade).
 - 3 Spokeshaves (wood, 1½" blade, pattern-makers').
 - 4 Mallets.
 - 1 Rabbet-plane.
 - 1 Router-plane.
 - 1 Pair pliers (combination).
 - 2 Bevels.
 - 1 Expansion bit (screw adjustment).
 - 2 Pair trammel points (to suit any stick).
 - 1 Demonstration molding bench.
- } Pattern-makers'.

Perhaps as satisfactory a way as any to describe methods of teaching pattern-making is to outline a single demonstration which is typical of

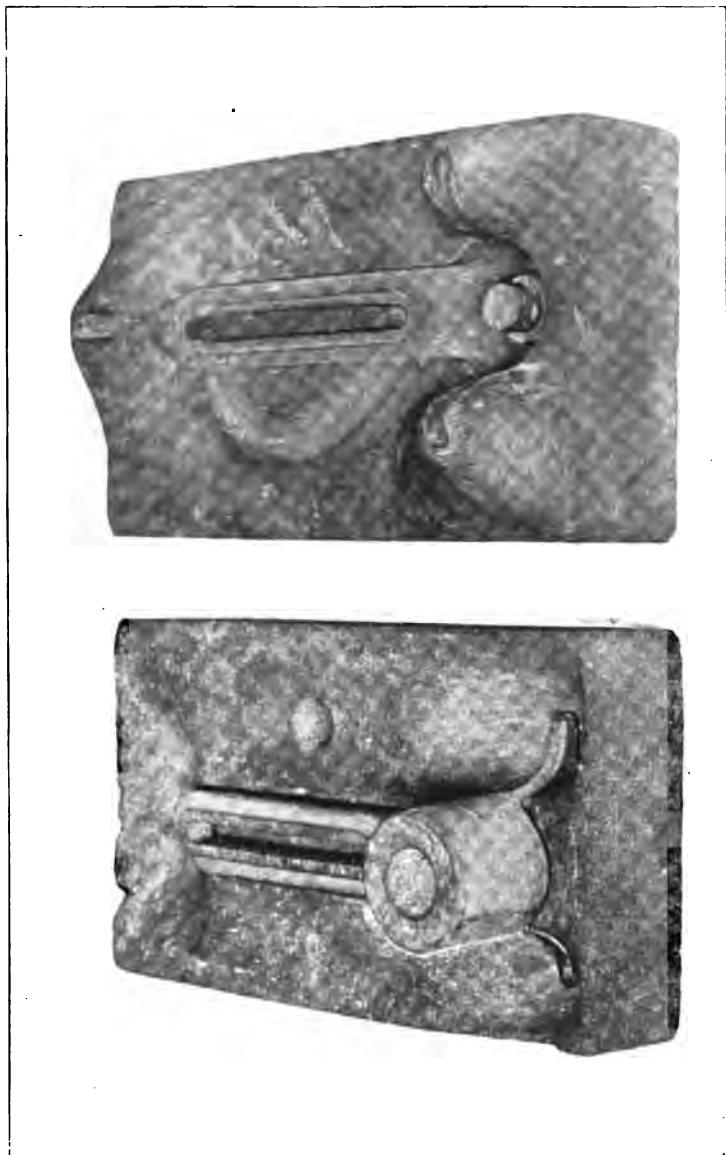


FIG. 6. MOLDING AN IRREGULAR SHAPED PATTERN.

all demonstrations, and then, by way of illustration, to show how different elements in the work may be made clear in other demonstrations. The word demonstration suggests class instruction. This is advocated for vocational schools as well as high schools. By it much

can be accomplished by a class or group that would otherwise be duplicated, but not probably in such detail, with individuals. Class demonstration work should cover all the *essentials* of any operation or operations involved in the making of a pattern. Minor instruction of details should be reserved for the individual instruction to be given at the individual's bench.

At the beginning of a course the instructor will do well to completely construct in the presence of his class a pattern similar to the one upon which the members of the class will immediately work. As the work progresses he need only perform the new operations in class demonstration work. When a pattern is undertaken which involves new principles in molding, these should be explained by means of a molding demonstration.

At the beginning of a course, also, the instructor should present in chart form a drawing of the finished casting desired, Fig. 7 A,

and the pattern-maker's drawing of the same, Fig. 7 B. Whenever it is found practicable, the finished pattern should be on exhibition, accompanied by a sectional baked mold and a casting for the same, Fig. 8. As soon as the student is well started in the course, however, the chart drawing should be omitted as a part of the exhibition material. Only the drawing, a blueprint, preferably of the finished casting, and one which

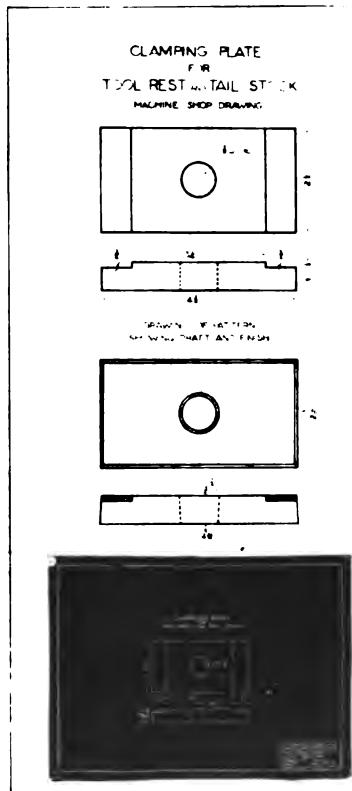


FIG. 7. A, B, C.

shows finish marks, should be given, Fig. 7 C. From this each student will make a pattern-maker's drawing, showing allowances for draft, finish, and construction details (B, Fig. 7), or, whenever necessary, he should, from the data given on the machinist's drawing, make a pattern lay-out on the surface of a board, Fig. 9. This is the most desirable means of testing the individual's knowledge of the requirements of the

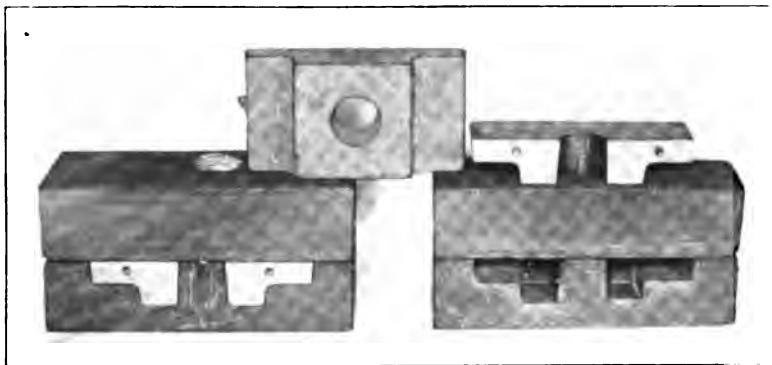


FIG. 8. FINISHED PATTERN, WITH SECTIONAL MOLD, AND CASTING.

problem and it is the actual drawing from which he will work in making the pattern. It should be made upon the finished surface of a soft pine board. A trimmed edge must be used from which to square lines. These, except the center lines, may be made with a fine, hard pencil. All center lines should be made with a stiff blade of a knife, but preferably with a pattern-maker's scribe. They should be fine, but deep enough not to be erased in case the surface of the board is planed slightly, as may be necessary in case some error in pencil work is made.

Assume now that the clamp plate, Fig. 7, is the pattern to be demonstrated. The exhibition material to be furnished and explained by the instructor is shown in Figs. 7 and 8. Preceding this demonstration the instructor will probably mold the pattern before his class. For demonstration purposes, a demonstration bench similar to the one shown in Fig. 1, or a molder's tub, will be found convenient.

The outline of the demonstration follows:

DEMONSTRATION FOR CLAMP PLATE.

1. Select a piece of white pine $\frac{1}{8}$ " thicker, $\frac{1}{4}$ " wider, and $\frac{1}{2}$ " longer than the finished pattern dimensions; if it is a scrap piece one or two inches longer than needed it is easier to plane.
2. Dress up stock. A good rule in pattern-making for planing is: 1, face; 2, edge; 3, thickness; 4, center lines; 5, lay out the problem.
3. Find the approximate center of length, and square center line across on *both* sides. Let it be said here, that center lines should always be drawn on both sides, *and left there*; They are necessary for checking the pattern.¹
4. From the square edge, gage a center line on both sides. This will be about 1-16" more than half the width of the plate, plus the draft on the square edge. Allowing 1-32" for draft, this would make the center line of the plate 1 11-32" from the square edge. Call the attention of the class to this point; the less allowed over the draft, the less will have to be planed off afterwards when planing for draft.
5. From the center line, and with the dividers, lay off the length of the plate on the top side, and square across.
6. Turn the piece over and lay off the length on the bottom, adding 1-32" on a side for draft. Square across.
7. From the center line, lay off the width on the top with dividers, and gage lines.
8. Lay off width on bottom, adding draft; gage lines.
9. Lay off hole on the top, adding draft. Note: this will be the large side of the hole. It is on the small side of the pattern.
10. Lay off the small side of hole on the bottom. This completes the laying out.
11. Bore hole from small side, allowing 1-16" all round for finishing with the gouge. Be careful to rebore from the other side.
12. Finish out hole with inside gouge to lines on both sides. Be sure the sides are straight from line to line.
13. Saw off the extra stock on each end, allowing 1-16" for trimmer. In case the block-plane is used in beginning work allow 1-32" only. The extra stock in width can now be cut off parallel with the edge.
14. Tick over length on the edge, set trimmer fence at angle, and, holding material on edge, trim to lines. Do the same for the other end.
15. Hold pattern in bench vise and plane sides to gage lines.
16. Sandpaper the hole. Use a piece of 3-8" stock with corners rounded.
17. Give the pattern two coats of shellac. Rub down smooth with very fine sandpaper after *each* coat.
18. Mark the number of the pattern on its top. It is now ready for the foundry.

¹ Center lines, both on the lay-out board and on patterns, are among the most important of all details in pattern-making.

Following the demonstration, each member of a class will proceed with the work at his bench. He should be given all *necessary* assistance by the instructor. This should be given largely by suggestion. The instructor will actually do work for a student only in rare cases. He will be diligent in watching his class, however, and by means of suggestive questions and helpful hints, he will lead the student to find his

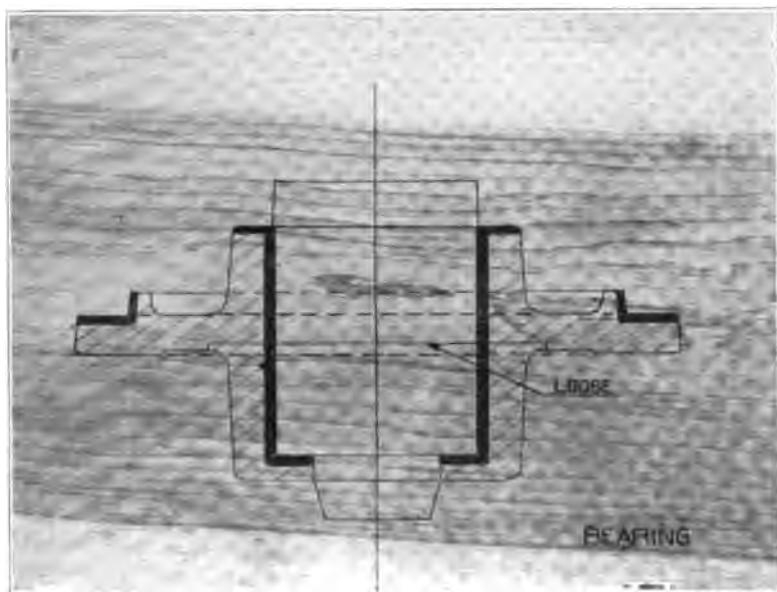


FIG. 9. A PATTERN LAY-OUT.

way out of difficulties and save himself from falling into bad habits of tool practice and wasteful methods of operation.

By succeeding steps, demonstration followed by classwork, the work of the course proceeds from the simple to the complex pattern, each one involving some new element and demanding greater ability in workmanship.

Figs. 2 to 6 inclusive, show patterns and molds which illustrate important features in a course, and the means which may be used to make them clear in demonstration work.

Fig. 2 shows the material used in demonstrating a pattern which is cored vertically by means of a baked core. The pattern and casting

are shown on the top of the mold. On the left is shown the mold cut vertically thru the center. The left side of the right mold shows the pattern in place. The right side of this mold shows the pattern removed and the core inserted ready for pouring. Note the tapering of the core at the top to allow it to enter the cope print hole without injury to the surrounding sand.

Horizontal coring is illustrated in Fig. 3. On the left the pattern is shown at the bottom and the corebox at the top. The mold with the core in place is shown on the right. The casting rests on the top of the mold. This is an example of two-end bearing for horizontal cores. Fig. 5 gives an example of a balanced horizontal core.

Fig. 4 illustrates the molding of a loose piece pattern. The body of the dovetail slide is slightly raised to better show how the slides may be drawn toward one another to be removed from the mold after the body is drawn from the sand. The casting is shown on the left. In the center the pattern is shown in the mold and on the right the mold is shown ready for pouring. In this, as in other illustrations, note the position of the pouring hole and gates.

In Fig. 5 balanced coring and the use of chaplets is illustrated. On the left are shown the mold and pattern. On the right the core is shown inserted in the mold. This illustration shows the gate, the sand on either side of which has been broken away that the gate might stand out in relief.

Fig. 6 illustrates the molding of an irregular shaped pattern—in this case a saw setter frame or stand. Irregular parting and the use of a modeled sand or plaster of paris follow board are the principal points to be emphasized in the demonstration. The cope with the casting set in it are shown on the left. On the right is the drag with the cores set. Note particularly the double gate in this illustration.

The material used in this article may be considered suitable for use in an elementary course in pattern-making.

In a future article, advanced pattern-making will be considered. In it segment and spoke work and intricate coring will be given special consideration, but the application of trigonometry to pattern-making and the use and construction of plaster of paris patterns will also be discussed.



THE POTTERY.

NEWCOMB SCHOOL OF ART: ITS RELATION TO ART INDUSTRIES.

By CHARLES A. BENNETT.

THE Art School of Sophie Newcomb College of New Orleans is worthy of study from several points of view. It is a successful art school maintained in connection with a high grade literary and scientific college for women; it is a school that has broken away from the old academic traditions concerning an art course, and gives emphasis to design and the crafts; and it has demonstrated, as no other art school in this country has done, that it is possible for a school to do much toward bridging the usual discouragements between the art school and art industry. Because of this latter feature of the work at Newcomb, this brief article is being written. It aims to call attention to certain essential features of the Newcomb method of training for industrial art occupations, believing that a presentation of the facts will be suggestive to other schools. In a measure the Art School of Newcomb is a vocational school, and is, in a very real way, influencing industry and industrial standards.

By way of introduction it should be stated that the Sophie Newcomb College is to the South what Wellesley and Smith and Vassar are to the East. It is a college for women maintained in part by tuitions paid by

the students and in part by income from an endowment. It was founded in 1886 by Mrs. Josephine Louise Newcomb as a memorial to her daughter. It is the woman's college of Tulane University and has recently purchased a site consisting of about thirty acres near the

University grounds opposite Audubon Park, and will erect fine buildings and move to the new home within a few years.

From the first Newcomb College has maintained an art school and from its beginning this school has been under the direction of one man, Professor Ellsworth Woodward, who has never forgotten the significant sentence in the letter of gift of the founder, "I further request that the education given shall look to the practical side of life as well as to literary excellence." Professor Woodward at once set his face against the idea that art is a fad or an accomplishment merely. He believed that a school ought to demonstrate the practical value of art; that an art school in a community ought to influence the life of the community, that it ought to begin with the garden and the front

THE CHAPEL FROM UNDER THE
LIVE OAKS.

fence and the placing of shrubs and trees; it ought to appear in the furniture, the hangings, the utensils and the fireside treasures of the home as well as in canvases upon the wall. He realized that in order to change life in this way education in art must go beyond the traditional art training of the studio. It must reach out and touch life—make friends with industry, so that there will be no jolt between school and life, no unlearning on entering industrial art occupations. Moreover, as he reflected upon the conditions of the South and shared her aspirations for development, he perceived that art training and appreciation must necessarily accompany it.

With such ideas the Newcomb Art School started. The faculty studied the community to discover what opportunities for art occupations



were available, what the community needed. It soon became clear that the school must do a double work. It must not only try to meet the very few real industrial demands for the work of its graduates but it must create new demands. It must stimulate the development of new industries—even establish new ones within its own borders, and then



THE DECORATORS AT WORK IN THE POTTERY.

convince the community of the value of their products. In other words, it must not only train the girls to do beautiful work but it must provide the factory in which those who have been trained can find congenial and profitable employment. And so there was developed the pottery under the immediate supervision of Miss Mary Sheerer, which has turned out beautiful wares that have been praised everywhere and have been awarded medals at the great international exposition. Then there grew up as a minor industry the making of leaded glass lamp-shades, fire-screens and memorial windows. After this came the needlework developed under the guidance of Mrs. Gertrude Roberts Smith, which on account of its distinctive design quality, fine coloring and thoro craftsmanship is sought by art workers and discriminating purchasers in all parts of the country, and has had a marked influence on needlework in other art centers. More recently the making of jewelry has been stimulated by the school. The business of the pottery now amounts to about \$6,000 a year, of the needlework to \$1,500, and of the jewelry to \$1,500.

In all this building up of industries in connection with the school the aim has not been at any time to make money, but to provide oppor-

tunities for art instruction and self support which the community did not offer. Consequently, about five years ago, when one of the graduates proposed that the alumnae be allowed to make an exhibit of their work at the school, a new feature of the institution came into being. The exhibit was held and was a success. Then Professor Woodward went



NEWCOMB FIREPLACE TILES—IN BLUE.

to the alumnae and suggested that an association be formed to exhibit the work of the graduates of the school. He offered them a suitable room in the pottery building, rent free, for a permanent exhibit room, provided they would furnish some one to take care of it, meet customers, etc. This they did, and when all was ready invited their friends to an opening. The local newspapers assisted in giving the exhibition publicity, and after two days the sales had amounted to about \$800. This was a revelation to some who had not realized before that the things they had made were worth dollars. This gave the movement a new impulse and now the association pays one of their number, a worker in the pottery,

\$15.00 a month to take care of the show room. In this movement among the alumnae as in the establishment of the industries by the school the fundamental purpose is not to make money for the association, but to help the girls to become self-supporting in their chosen work.

Those familiar with the usual processes of educating young artists realize that between the finishing of school work and the beginning of



NEWCOMB POTTERY AND NEEDLEWORK.

practice lies a period of great difficulty. Opportunity for the favorable exhibition of work and making acquaintance with the public is difficult to obtain, and in the prolonged lack of opportunity the majority go down to defeat. In affording graduates this privilege, the school has perhaps found one of the greatest factors in its success.

In addition to the work which is placed on sale at the show room the graduates are reaching out into a broader field as fast as opportunity offers. Many of the jewels for the queen and the maids of honor at the Mardi Gras are made by Newcomb girls. Recently some of the architects of the city have come to realize the possibilities of utilizing the graduates of the school in decorative work. A new theatre was being constructed and the architect, who had experienced disappointment in the work of decorators imported from Eastern cities, selected one of the graduates of the Newcomb School to produce the mural decorations. She

accepted the commission and then selected three other Newcomb girls to assist her. The accompanying illustration shows the four as they were found one morning working in the attic of another theatre building, painting the decorations for the central arch over the stage. The result of this first large venture in mural decoration has been so satisfactory to



NEWCOMB GRADUATES AT WORK ON MURAL PAINTING FOR A NEW ORLEANS THEATRE.

all concerned and attracted so much favorable public comment that it is likely to open up a new and very attractive field to Newcomb graduates.

Not the least valuable result of all this activity has been the change in the attitude of the community toward the school and its products. Little by little the school has gained in public support, and all the while it has been raising the standard of taste in art matters for the city, and for the whole South, for that matter. An interesting recognition of this fact was seen in a large sign hung across the front of the new theatre in process of construction which read, "Decorated by Newcomb Girls." In speaking of the relation of the community to the school Professor Woodward said, "The thing that makes us happy is that a girl can face this community and make a living without teaching, and without staying with us."

How all this has been accomplished would be a long story which

could be told only by Professor Woodward and his loyal helpers, but one visiting the school can catch glimpses of that process and the guiding principles. For example Professor Woodward says, "As fast as I see a need for a new art industry and I believe the community will support it, we put it into the school." "As soon as the people realize that home industry deserves their patronage the support comes."

Bookbinding has been introduced with the opening of the present session.

Another principle governing the work of the school is that there shall be no duplication. Each design is exclusive; for each object the design is redrawn even tho it is similar to some other. This is regarded as the correct procedure, not chiefly because it produces superior and consequently higher-priced wares, but because artists are happier when doing individual work. They grow in power thru such work. This principle has been tested in the school. Two stock patterns were decided upon and the workers given an opportunity to make these, but they didn't want to do it. Even the dullest of the girls did not want to repeat the pattern. The work of every day must be fresh and new, and this cannot be if the artist is constantly repeating designs. Newcomb girls are told that they must see as much beauty in the old back yards of New Orleans as in the canals of Venice. "Unless you can see beauty in the common-place things you are a failure as an artist." It is then their privilege to express that beauty thru their work, and so release its power to influence life.

The Newcomb Art School, then, is part of a strong literary college on the one hand and part of a thriving industry on the other. But the three—college, art school and industry—seem to overlap or touch at so many points that it is not easy for an outsider to differentiate between them, altho each has a separate building. In actual working the connections are much closer than between many university departments. The industry seems an essential element of the whole. Newcomb without its potters, its needleworkers and its jewelers would not be Newcomb. If these were to be dropped the institution would lose a vital element that now gives it character.

A QUESTIONNAIRE FOR A COURSE IN SHOP MATHEMATICS.

HOWARD D. BRUNDAGE.

FOR the purpose of improving the work in shop mathematics in a trade school the subjoined questionnaire was used.

The aim in revising the course was two-fold: *First*, to make it of greater use and benefit in the exercise and construction work of the school shops; and *second*, to increase its value for application in future trade processes.

The questions were prepared especially for presentation to the shop instructors, for it was believed that the answers from such a source would contain opinions, information, and data of real practical value; particularly in reaching deductions upon which to base an outline for the course and in the selection of subject-matter for use in the preparation of examples and problems. Altho each of the four departments, namely, machine-shop, woodworking, electrical, and painting, was given the same set of questions, the number and the variety provided for procuring both the important facts and data particularly related to each department and those having a common and general relation.

While the endeavor was to improve a course of study it should be borne in mind that the nature of the aim was necessarily elementary. The scope, kind, and amount of work accomplished were directly governed by the limited and peculiar conditions under which the course was taught. The course was given in a short term trade school where the total amount of time spent by a pupil was about one hundred days of eight hours each and the entire number of hours devoted to shop mathematics was only about fifty-four.

Besides this restriction of time a large majority of the pupils were foreign born, many of whom had not only a poor command of the English language but a very meagre education. And further, while the native born pupils had a fair command of English, and in most cases were better educated than the foreign born, nevertheless they were of a different type from the average American school boy.

Then too, on the other hand, while care was exercised to conform to modern methods in presenting and teaching a subject, and altho many of the pupils afterwards did pursue advanced courses, no

attempt was made to especially prepare for courses taught in higher institutions of learning. It was deemed more important to ground these pupils in a few fundamentals and drill for accuracy in number work and the quick applications of simple rules and formulas which were essential to the solving of problems met with in everyday experience, than to sacrifice their time and energies to the uncertain prospects of a higher school education.

As previously inferred, the simple purpose of the questionnaire was to discover certain specific and important knowledge for the use of tradesmen, and so to clothe and present such knowledge that they should absorb and assimilate it to become a part of their mental mechanical equipment.

QUESTIONNAIRE.

To Instructors:

That the practical benefit of the course in shop mathematics may be increased by supplying the pupil with knowledge that has direct application in your shop course or is used in the trade processes which he will meet with later in his experience outside as a tradesman, you are requested to fill in as much as possible of the following form.

Please number the answer to correspond with the question.

1. What is the smallest fractional part of an inch which the tradesman of your department uses ordinarily in measurement work?
2. What form of measuring rule does he use most in his daily work?
3. (a) What do you desire your pupils taught first regarding the use of this rule?
(b) What other uses?
4. With what other forms of measuring rules must he become familiar?
5. *Yardstick.* Do you measure or estimate in yards and do you use the yardstick? If so, what are some of its uses which you wish taught?
6. *10 ft. Pole.* Do you use the 10 ft. pole and if so, what are some of its uses which you wish taught?
7. *Square.* Do you measure or estimate by the "square," that is, a surface 10 ft. by 10 ft. equal to 100 sq. ft., and if so, name some instances in which it is used.

8. What particular work in arithmetic do you wish your pupils drilled in at the beginning of the term?

9. What are some of the important mathematical formulas or equations which a tradesman of your department needs to memorize or at least should be able to apply?

10. What are some of the important angles and their applications with which a tradesman in your department should be familiar?

11. Please cite and if possible furnish data for practical problems in the work of your department which require the use of
a. Common fractions; *b.* Decimal fractions; *c.* Decimal equivalents;
d. Percentage; *e.* Mathematical formulas or equations; *f.* Angles;
g. Surfaces; *h.* Volumes.

12. Remarks.

The answers received were in every case very satisfactory and helpful to the mathematical department.

By comparison it was easy to determine the importance of certain facts, also where stress should be laid and drill given in the general work. For instance, in question number one, with the exception of the machine department every answer was $\frac{1}{8}$ ". This indicated that pupils of these departments need not be concerned with smaller divisions but to and including $\frac{1}{8}$ " they should be drilled in the use of these fractions. Also in answering question number eight every instructor urged increased ability in the mental handling of fractions; a condition which emphasized the necessity of giving this subject special attention in the course. Indeed, so important did the teaching of it become that a special pamphlet explaining the relation of fractions to whole numbers was prepared and used in the work. The data furnished by the answers to the ninth and eleventh questions were of course particularly helpful in preparing work for each department. They not only furnished rich material for subject matter but shed much light on the manner in which the instructor conceived ideas, and his practical shop methods and the language used in presenting them to the class.

The answers to question ten were of great assistance in geometrical drawing. This work, while taught in conjunction with the arithmetic, was treated almost as a separate subject. It was particularly correlated with the work under the head of mensuration.

Following is a brief form for the outline of the course in shop mathematics which was arranged from the answers:

OUTLINE OF COURSE IN SHOP MATHEMATICS.

I. Explanatory.

- Units
- Numbers
- Figures
- Whole Numbers
- Fractions
- Signs

II. Processes dealing with Whole Numbers.

- a. Explanatory
- b. Addition
- c. Subtraction
- d. Multiplication
- e. Division
- f. Combinations of a, b, c, d, and e.

III. Processes dealing with Proper Fractions.

- a. Explanatory
- b. Addition
- c. Subtraction
- d. Multiplication
- e. Division
- f. Combinations of a, b, c, d, and e.

IV. Processes dealing with Mixed Numbers and Improper Fractions.

- a. Explanatory
- b. Addition
- c. Subtraction
- d. Multiplication
- e. Division
- f. Combinations of a, b, c, d and e.

V. Processes dealing with Decimal Fractions

- a. Explanatory
- b. Addition and Subtraction
- c. Multiplication
- d. Division
- e. Combinations
- f. Percentage

VI. Mensuration

- a. Explanatory—(1) Points, lines, distance; (2) Surface; (3) Space, solids.
- b. Linear Measure
- c. Square Measure
- d. Cubic Measure
- e. Combinations

VII. Estimating.

- a. Material—(1) Purchasing; (2) Terms; (3) Trade Methods.
- b. Labor—(1) Piece work; (2) Day or Hour.

KNOWING AS EDUCATORS DO THAT THOUSANDS OF THE CITY YOUTH WILL ENTER THE FACTORY LIFE AT AN AGE AS EARLY AS THE STATE LAW WILL PERMIT; INSTRUCTED AS THE MODERN TEACHER IS AS TO YOUTH'S REQUIREMENTS FOR A NORMAL MENTAL AND MUSCULAR DEVELOPMENT, IT IS HARD TO UNDERSTAND THE APATHY IN REGARD TO YOUTH'S INEVITABLE EXPERIENCE IN MODERN INDUSTRY. ARE THE EDUCATORS, LIKE THE REST OF US, SO CAUGHT IN ADMIRATION OF THE ASTONISHING ACHIEVEMENTS OF MODERN INDUSTRY THAT THEY FORGET THE CHILDREN THEMSELVES?—Jane Addams.

EDITORIAL

IT is generally admitted that one of the most important questions regarding the vocational education movement now under consideration is whether such education shall be provided by a separately organized system of schools, administered by a different staff of officers acting under authority granted by special legislation, or whether the scope and purpose of the present public educational system shall be so widened as to minister to the educational needs of all citizens by the addition of new departments, and the development of a more complex and highly differentiated organization.

It is within the bounds of truth to say that, while this question has become acute in only a few states, it is of national importance. Indications are not wanting to show that a strongly developed movement is under way thruout the country to secure, wherever possible, the establishment of the separate system. In fact, while we are not able to estimate its strength, there is no doubt that opposition was developed against the Page Vocational Education Bill, in some quarters, because it was felt that it tended too strongly towards the separate school. We say this altho we do not concur in this opinion and have always supported the Page measure.

In view of the above facts we are led to comment on the following circular which has just been received:

OFFICE OF
STATE SUPERINTENDENT.
MADISON, WISCONSIN, September 22, 1913.

RESOLUTIONS.

To Whom it May Concern:—

WHEREAS, There has been more or less irresponsible utterance within and without the State with reference to the satisfaction and efficiency of the law that provides for continuation schools for the self-supporting wage-earners of the State of Wisconsin,

AND WHEREAS, It is desirable once and for all to state what are the facts with reference to this matter,

AND WHEREAS, It seems reasonable that a representative body consisting of school officers, superintendents, and continuation teachers from all of the cities of Wisconsin maintaining such schools, are wholly familiar with conditions that exist,

AND WHEREAS, It is becoming for such a gathering to declare what the conditions are,

THEREFORE, Be it resolved by the one hundred fifty officers, superintendents and teachers assembled in the First Institute and Conference for Continuation Schools, that

"We find on the whole that the duplex system, or two boards, is advantageous to the administration of both lines of school work, generalized school work and specialized school work."

Resolutions passed enthusiastically by unanimous standing vote.

C. P. CARY, State Superintendent,

M. J. NORRIS,
Secretary.

Presiding Officer.

While every true friend of popular education will rejoice at the success of Wisconsin's effort to inaugurate a state-wide system of vocational education, there is danger that this enthusiastic endorsement of the Wisconsin plan by Wisconsin teachers will be urged by some as conclusive proof of the superiority of the separate system referred to above. No greater mistake could be made than to put such construction on these "Resolutions."

In the first place it should be noted that, by the terms of the Resolutions, Wisconsin's purpose has been to provide "continuation schools for the self-supporting wage-earners of the State." Important as this phase of vocational education may be, the establishment of continuation schools is a relatively simple matter compared to the carrying out of the programs of such states as Massachusetts, New York, New Jersey, Pennsylvania, and Indiana, or even the realization of the plans proposed for Illinois. In these states, in addition to continuation schools, the plans contemplate full-time day schools, complete vocational departments in existing high schools, a liberal utilization of the part-time co-operative scheme involving agreements between employers and the existing schools, some of which plans reach well down into the compulsory school period. In no one of these states is it necessary for the young citizen to become a "self-supporting wage-earner" before he can receive the benefit of state-aided vocational education. We would in no wise minimize the inestimable value of the continuation school, but we must insist that a plan of state administration which proves eminently satisfactory for the establishment of such schools might be ineffectual in promoting some of the other and more complex types of vocational education.

In the second place it should be recalled that what is referred to in the Resolutions as "the duplex system" is not necessarily the same as the "separate system" so forcefully advocated in some quarters. As the industrial school board in any Wisconsin city is appointed by the regular school board, and as its members may be, and in many instances actually are the same men and women as constitute the school board, there is sure to be a unity of interest which may not result from, and certainly is not invited by the plan of a separate board appointed by the mayor or other high authority.

What is gained by the Wisconsin plan is a separate budget and freedom from the restraints of old, conservative, and inappropriate rules and regulations. Both these highly desirable advantages might, under proper legislation, be secured to a sub-committee of any existing school board in the land. On the other hand friction and duplication of effort which are unavoidable under the duplex system would be eliminated by retaining the single administrative authority. That such friction has been felt in Wisconsin can not be successfully disputed.

In the third place may we not over-estimate the importance of the opinions expressed in these Resolutions? It should be remembered that we have here expressed the opinion of a group of men the large majority of whom have had no opportunity whatever to observe the working of any other plan than the one under discussion. Their statement is that they find the plan good, and everyone will heartily agree with them. That the plan is *better* than some other, or that it is the *best possible plan*, they have not said nor are they competent to judge, since their experience is limited to the "duplex system" which has been in operation two years or less. Under the circumstances one can hardly imagine how the Resolutions could have been passed in any other way than "enthusiastically by unanimous vote."

After all it is a question of *relative* values in which we are interested. No advocate of the "*unified system*" has denied that the dual system has advantages, and most are willing to admit that greater *immediate* success for the new movement would probably be achieved if it were possible to eliminate all traditional pedagogical restraints and limitations. But it cannot be said too often or too emphatically that the greatest value of the vocational education movement will be its ultimate effect on the general system of public schools. Even today it is to be noted that in those places where both types of education are administered by the same

school board a vitality has been observed in the older schools which is full of promise that the much-needed educational reorganization is near at hand.

FRANK M. LEAVITT.

**A NATIONAL SOCIETY FOR PROMOTION OF
EDUCATION FOR LEISURE.**

If a man wants to know what he thinks, he starts a club. If he wants to be very sure, he calls a convention. I should like to prophesy that some one will on some day call somewhere for a gathering to promote the idea that there should be an education established for leisure hours. Formerly the prophet was crucified. But now the practical man is the one who can make the best guess on tomorrow and being a prophet is getting to be almost smug and respectable.

Some day the cry to the machine will be, "We have served you, Oh! machine, now you serve us." The cry now is, "Efficiency, efficiency, efficiency." At present all or nearly all educational discussion is directed to make men and women more competent and skillful in the work which engages them. The machine owners cry "efficiency" and the educational world echoes "efficiency" in a "me too" fashion. This may be well.

The industrial world is trying to make vast armies of men work together in precisely the same fashion that it makes levers, cams and gears work together. The iron machine has become a model for the machine tender and now we are to make the machine tender a model for an educational machinery.

It is a wonderful machine age. We have made machines out of everything and the glaring mistake is that we have made machines out of ourselves. Even the gods must smile. Some say the machine is dead. But it is not the dead machine; it is only mechanical-minded men that are dead.

Not all men are gears and wheels. Not all men will go round and round and round. And the only justification for this "going-aroundness" will be that the world's work can be quicker and better done. A gradual and reasonable reduction of hours of labor to the lowest practical point must result if the means are to be justified.

Machine-made products may be well; but machine-made men are a curse. Machine-made chairs and tables will do; but machine-made ideas

and acts are monstrous. Perhaps some day people will find time to sit down and enjoy hand-made ideas; to read books by hand; to play by hand.

Apparently few advocates of vocational education, the sponsors for shorter working days, and the users of machinery seem at all alive to the fact that to increase the material efficiency of men and women and to increase at the same time their leisure is to jump into the midst of a problem which is no less difficult and serious than the problem of overwork.

What shall we do with our leisure? The average man, especially in cities, looks lonesome and out of place when he is not working. The inability of the average person to be good interesting company for himself is marked.

Every man owes it to society to spend part of his time in expressing his own soul. The world needs him. Society cannot afford to let the man use only his feet and his hands. It needs his head. It needs his soul. When he is at the machine for the good of the cause, he must express the desires and needs of others. When he is away from the machine, he owes it to himself and society to express himself. When he is a worker he may have to borrow brains. But when he is away from his work he should express brains.

The problem of doing away with mechanical-minded men is enormous. It is the double problem of education for efficiency and education for leisure. For a part of the day taking or giving orders, being servant or being master, imitating or directing machines—duties whatever they may be—as part of the great world of machine, is the probable outcome for us all. Our work may be in the basement of society. We are to work in the way this world demands, expressing society, subordinating ourselves. Technical efficiency may well be the cry.

But for the rest of the day we must take our stand as individuals on the ground floor of the world. We must stop being a machine and be a man. We must give orders to ourselves and do some work we love to do in the way we love to do it—in short, to be an artist craftsman. In the morning of our work in a world industrial, we are selected. In the evening of our living, we ourselves select.

In the morning of our work we will be selected for our latent capacities, we shall be Taylorized into holding our hands efficiently, to lift effectively, to move quickly, to follow directions definitely. We shall be shown by experts how our work should be done. The accumula-

tions of science and genius, the ideas and experiences will be at our service to show us how to work, and perhaps then we shall be able to earn as much and do as much in five hours a day as formerly we earned and did in nine. There may remain nineteen free hours. What will be done with them?

And then we will call our convention to discuss a pressing question of that period sure to come—what of our leisure hours?

ARTHUR D. DEAN.

THE RICHMAN AND THE SCHOOLMAN.

A FABLE.

ONCE upon a time a kind-hearted Richman came to a learned Schoolman and said: "For many years I have been an employer of young men and I have become convinced that their greatest need is practical education—more practical than is now provided in the public schools. These boys ought to learn how to work with their hands as well as their heads, and their hands and heads should be trained to work together to some useful purpose. I am so firm in this opinion that I am ready to endow a school of industrial education to the amount of two million dollars. If you will come to our city and be the director of this new school I will pay you a salary of five thousand dollars a year."

It goes without saying that the Schoolman was overjoyed at the noble impulses, the generosity and the confidence of the Richman, and he forthwith accepted the offer.

Now it came to pass that the Richman caused deeds to be made out to trustees, a noted architect to be employed, and buildings to be erected to suit the ideal of the Schoolman, because the Richman supposed the Schoolman's ideal was the same as his own. He had reason to suppose so because the Schoolman rapidly developed much fervor in speaking on industrial education and was sought to address state teachers associations and then to speak at the great national convention of teachers in the summer.

However, the Schoolman's training had been in the classics, and not in handwork tho he emphasized the fact that in his boyhood days he had learned to hoe corn on his father's hillside farm in New Hampshire. At college he had taken full work in pure mathematics but no applied science. He had completed a course in the history of Greek art but none in drawing. After taking his Doctor's degree he had served as

dean of the undergraduate students in literature and art. And so, as a matter of course, when he came to select teachers for the new school he took only men with college training; when he planned the courses of instruction, each course was dominated by the college ideal of culture.

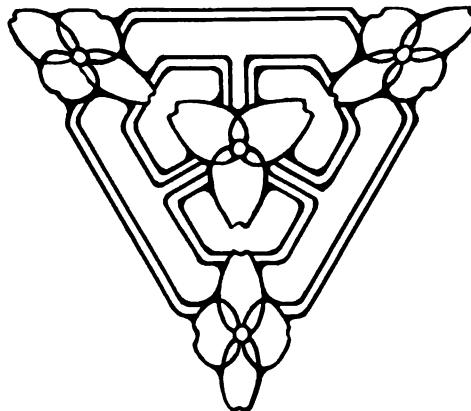
In course of time the school opened with due ceremony and academic pomp. Pupils came from near and far; year by year the number grew; each year standards were raised and higher courses offered. The Schoolman smiled.

But the Richman! For many months some of his friends had noticed a lack of his former enthusiasm when the school was mentioned. One morning in November an old friend was in the private office of the Richman, and thinking to give him cheer, he said as he was about to depart, "I see you are going to change the name of your school to university. What a wonderful development the school is having! I quite envy you the satisfaction you must take in this great gift to the people."

The Richman leaned back in his chair and there was a look of deep disappointment in his eyes. With a voice that expressed much feeling he said slowly, "Do you know, my friend, I never wanted to found a university. I thought I was founding a school for industrial workers."

Moral: When you want shoemaking done, employ a shoemaker.

—C. A. B.



OF CURRENT INTEREST

INDIANA AND THE NEW INDUSTRIAL EDUCATION LAW.

That the duty of the public schools in regard to vocational education does not end with the provision for trade, continuation, and part-time schools, is clearly indicated in the attitude of the Indiana state education authorities in their task of putting the new vocational education law into effect. This attitude is shown in their recently published "Tentative course of study in Industrial Subjects," which contains many interesting and suggestive statements.

The state department believes that, in addition to direct trade training for those who wish it, the public schools must provide for all pupils general "prevocational" work which will give them practical help in the preparation for their future vocation, together with such information about our modern industrial conditions as will enable students to choose wisely the vocation or profession for which they wish to prepare. The term prevocational as here used is not restricted in meaning to work for pupils under working age or to the half-academic, half-constructive day plan, but it is meant to embrace all work of vocational content which is not specific trade training. It includes work for grammar grade and high school pupils of all classes, not alone for those who expect to enter trade classes of some kind.

The following outline of what this general preparatory work for both grammar grade and high school pupils should accomplish is given in the course of study:

"1. It should develop an ability that can be turned to practical account in some one or more of the vocations.

"2. It should give the pupil the habit of cooperative work, and the knowledge that he and his work are but a link in a vast industrial chain that unites our social world.

"3. It should give him an interest in learning all about the profession or vocation he desires to take up.

"4. It should give him the habit of accuracy and care of detail, a feeling of pride in his own creation and work that will make him strive always to produce honest work.

"5. It should make him see and feel that thru his work and by the mastery of his occupation or craft he is rendering the world a service as truly as is the statesman, the minister, or the reformer. And that if he makes his work good enough he may, thru it, serve future generations, the same as any artist or creative genius.

"6. Lastly, the vocational work may be made a means for teaching social ethics. Thru it, the child learns not merely to support himself, but to feel that he may contribute to society by learning to do well some of the world's work. He should be made to feel that if he does not thus learn to serve society as well as himself he is a mere parasite or tramp."

As to ways and means, two kinds of work are discussed for this general prevocation study; lecture and text-book work, and constructive work, two recitations a week to be given the former and three double laboratory periods a week to the latter. The first kind of work should include a study, by means of lectures, text-books, and illustrative materials, of the history and present conditions of modern industrial and economic life, i. e., present and past methods of providing food, clothing, and shelter for man. The constructive work should develop skill and ability which can be turned to practical account in some one or more of the fundamental industries.

A suggestion is made that is applicable in other states as well as Indiana. It is this: "If sufficient study of the more important industries of the state were made to make clear to our young people the preparation that is needed or required for each important occupation or profession, the difficulties and dangers to be encountered or avoided in each, the rewards of skill (in salaries or wages) presented by each, it would do much towards enabling our young people to make wise and intelligent choices of occupations. These facts should be determined for Indiana and made available for all."

PRACTICAL TRAINING AT ISHPEMING.

Ishpeming schools, in the upper peninsula of Michigan, have a peculiar problem to solve. The chief industry of the locality is mining, but a state law forbids the employment of boys under eighteen years of age in mines or about machinery. This leaves a large number of boys with nothing to do but to loaf during summer vacations and other spare time.

E. E. Scribner, superintendent of schools, felt that this condition should not go on, and six years ago urged the Board of Education to employ the boys in work on the school buildings. Permission was finally gained and a group of boys employed, receiving pay at the rate of forty dollars a month of twenty-six days, nine hours a day. The boys painted, calcimined, repaired toilets, and remodeled an old high school building into a grade building. They partitioned off the assembly room into five classrooms, doing the lathing, putting in the ventilation, and setting the slate black boards.

They have also taken the plumbing out of the Cleveland school building and installed modern sanitary plumbing, lavatory equipment, and shower baths. In this work on the school buildings Superintendent Scribner acted as boss.

This work, however, did not give employment to all the boys who wanted work, so farming was proposed as a further occupation. It was first brought before the boys and sixty-four signified a wish to undertake it. Then permission was gained from the board and work begun on the fields secured for the purpose.

The boys worked in gangs, each gang with a boss, and all showed exceptional enthusiasm in the new work. They fenced the entire tract digging post-holes and stringing the wire. Twelve boys in one day dug one hundred and fifty post-holes and strung the wires. They built gates and did every kind of work required for the care of a farm. Up to harvest time they were paid ten cents an hour, but while gathering the crops they will receive seven and one-half cents more.

They have this year a fine crop of potatoes, 14,000 cabbage plants, and over half an acre of strawberries. The tract was originally thick with quack grass but by intense cultivation the boys have nearly killed it all and it will probably entirely disappear the second year.

Altho this first year the expense is heavy on account of fencing, etc., it looks as if the crops would sell for enough to pay all expenses. Even should they not the school authorities feel that the educational value of the work has been worth the expense.

While this is not trade education in the exact sense of the word, the boys are gaining many things that are supplied by trade training and in a very simple and natural way. They are learning habits of industry, the value of cooperative effort, the money-value of time, the joy of service, and also gaining a glimpse of occupations other than those so familiar to the community. The qualities of character gained in work

like this transfer to other occupations, and should these boys become miners or machinists, they will be better miners and machinists for having learned the secrets of productive efficiency. It may come to pass, also, that some of these boys will become happy farmers instead of discontented miners, or will find in the building trades their opportunity for working with the maximum of joy and efficiency.

Whatever the final results, however, the experiment in Ishpeming shows, in an inspiring way, what may be accomplished by initiative and perseverance. Superintendent Scribner did not wait until he had an expensive and elaborately equipped trade shop before giving his boys some vocational training. He went to work with the means at hand. What he has done can be done elsewhere, if the school authorities are willing and ready to study their own community and to begin with what is available, until the time comes when better facilities are at hand.

COOPERATION FOR EVENING CLASSES IN PHILADELPHIA.

That very live and active organization, the Philadelphia Public Education Association, has taken hold of the evening school problem in a way that promises to provide exceptional opportunities this winter for the ambitious workers of the city. This activity of the association is conducted by a section called "The Industrial and Technical Education Conference."

This Conference had its origin in a meeting held last spring in which representatives from the Y. M. C. A., Drexel Institute, Franklin Institute, the School of Industrial Art, Spring Garden Institute, Wagner Institute, Temple University, the Philadelphia Trades School, and the Evening Public Schools of Philadelphia and Camden met together with the purpose of getting the schools better acquainted with each other's work, and gaining the cooperation of the employers of labor. This group of people with others later organized as the Industrial and Technical Education Conference of the Public Education Association. The membership consists of educators and employers, and its purpose is the solution of some of the problems which arise in the further training of the young people who leave school to go to work before their education is finished.

This combination has resulted in bringing together practically all the schools giving evening instruction. Altho some of these schools are semi-private in character, they have cooperated in issuing joint advertising, including posters and notes in the newspapers. The posters have,

with the consent of the employers, been placed in evidence in all of the large manufacturing and business establishments.

The Public Education Association serves as a clearing house for information regarding industrial and technical opportunities thruout the city. A workman, after reading a poster or advertisement, may go to the offices of the Association and find out just where he can obtain the particular training he desires, the hours, expense, and length of time necessary. For example the Association has issued a folder listing all the subjects offered in the evening schools which would be of interest to employes in the various bureaus of the Department of Works and Safety in the city. Some seventy-six subjects are listed and under each subject are found the names of the schools offering instruction in that subject.

The cooperative spirit, engendered by the Conference, is bearing fruit among the employers. Some industrial establishments have offered to pay a portion of the cost of tuition for any of their employes who desire to take advantage of the high-grade instruction offered by the various technical schools represented in the Conference. Others are organizing night classes in their own shops, and skilled workmen are coming from Harrisburg, Trenton, Wilmington, and other distant points, to secure training in their own lines of employment. One of the functions of the Conference is to arrange for lower rates of carfare for those who travel from distant points to secure these educational advantages.

Another activity of the Association, coming as a result of the organization of the Industrial Education Conference, was a meeting of the employes of the municipal departments on September 22. Over 800 men attended, crowding the Mayor's reception room and furnishing an overflow meeting, to hear the directors of departments, chiefs of bureaus, and leaders of the Conference explain the possibilities in evening school training. Following this inspiring meeting, every day for two weeks representatives of the various schools in the Conference met the city employes in the offices of the chiefs of bureaus, at the noon-hour and from four-thirty to five-thirty, to arrange definite courses. In these conferences no man spoke for his own school but pointed out how the advanced training as offered by all the Conference schools provides a means by which the men may equip themselves for positions of greater responsibility and demanding greater efficiency. Thru informal discussion with the men suggestions were obtained as to enlarging or improving the facilities of the schools to more fully meet their needs. For

instance, the attention of the Conference was called to the needs of the men working on night shifts and other unusual hours. The Conference at once took steps to provide suitable hours and places of training for these men.

The Conference is now busy planning meetings for the employes of corporations, and thus the work will grow until all are reached who can profit by evening school opportunities.

BEGINNING VOCATIONAL GUIDANCE IN PUEBLO.

The school authorities in Pueblo, Colorado, have begun their work in vocational guidance in the firm belief that such guidance is a positive duty of the public schools. Superintendent F. D. Slutz states that belief in the following words:

"We believe that one of the fundamental purposes of the American high school is to aid young men and women to find themselves in the world: to find their work and their life interest. We believe that no one works intelligently and interestingly until he knows what he is working for. In other words, it is the business of young people to choose an objective point as early as possible in life."

From this point of view the work was started last April. First, vocational blanks were sent to all the boys in the high school and in grades six, seven and eight of the elementary schools, with the request that each boy fill out his blank properly. The direct purpose of these blanks was to find out what the boys would like to do during the summer vacation. The indirect purpose of the blanks was to secure the first data in the vocational history of these pupils. The superintendent of schools secured the cooperation of the Commerce Club, which organized a vocational guidance committee to act with the schools in this work. This committee was composed of five business men of high standing, and the superintendent. These business men, using their own stationery, wrote to every business man in town, enclosing with their letters an occupation blank to be filled and returned to the superintendent. These blanks furnished a list of the positions open to the boys during the summer and also told what the occupational demands of the city were.

After all the data from both business men and boys had been collected, the work of placement for the summer was begun, two strong high school teachers working with the superintendent. In addition to the actual filling of positions, the placement work aroused a widespread interest in the city.

This fall a careful canvass of the school district will be made with the purpose of learning how much the boys earned during the summer, how they succeeded in their work, why they failed if they did fail, and what their employers think of their work. This canvass will indicate, thru definite facts, wherein the schools are helping and wherein they are not helping these boys in preparation for life and work.

During the year the work will be continued by means of lectures on all kinds of occupations and by means of essay writing. The business men are offering prizes for the best essays on the history of certain occupations. Much of this activity is made possible by the active co-operation of the Commerce Club committee.

We hope to be able to supplement this "just-how" account of a beginning in vocational guidance work with an account of the result of the autumn canvass in Pueblo.

THE WISCONSIN CONFERENCE AND INSTITUTE.

The first institute and conference of the teachers employed in Wisconsin's vocational schools was held September 15, 16, and 17, in Madison, at the University of Wisconsin.

The principal theme of the program was how to teach the outlines that are prepared by teachers of experience in apprentice, permit, industrial day and evening schools. Copies of outline lessons on twenty-eight different topics were printed and distributed to those attending the conference. The day's work consisted in the discussion of these lesson outlines, two speakers being assigned to each topic. Dean F. E. Turneaure, Madison, presided at the meetings when the topics relating to apprentices were discussed; Superintendent C. P. Cary, Madison, presided at the discussion of permit class work; President L. D. Harvey, of the Stout Institute, presided when topics relating to all day industrial or commercial schools were considered, and Dean Louis E. Reber, when evening class topics were discussed.

Topics of general interest were discussed in addresses at the evening meetings, the speakers including E. W. Schultz, president of the industrial board, Sheboygan, C. J. Mitchell, secretary of the industrial board, Beloit, C. P. Cary, and Edwin G. Cooley.

The scope of the discussion and its extremely practical character may be judged from the following topics selected at random from the program: Safety devices, sixteen lessons for apprentices; gasoline engine

practice, twelve lessons, evening classes; library and technical reading for permit classes; hygiene, twelve lessons for permit classes; retail selling and store management for evening classes.

Such an interchange of ideas as was provided by the unique plan of this first institute is apt to result in state-wide harmony in conduct of vocational classes as far as such harmony is possible when the differences of communities are considered. The teachers attending should gain a very beneficial broadening of view from the study, and much inspiration from the fact that the work in Wisconsin has progressed to the point where formulation of outlines for presentation to such a conference is possible. Things move rapidly in Wisconsin.

A DEFINITE POLICY AT BAYONNE.

The Bayonne, New Jersey, Vocational School is entering on its third year of work. The board of education last year appointed a committee to investigate the school and its relation to community needs, in order to arrange a more definite policy of administration than was thought advisable at the beginning of the school's existence.

The recommendations of the committee, made after careful study of the school's experience, and approved by Lewis H. Carris, assistant commissioner of public instruction in charge of industrial education, should prove of interest to other communities.

The recommendations were sent out as rules of the board, with a condensed outline and letter, to the boys of grades five to eight, inclusive. The capacity of the school is about two hundred, half of this year's enrolment consisting of pupils already entered on the course at the school.

The recommendations are as follows:

1. That elementary courses be given in each of the following vocational subjects; mechanical drawing, woodworking, machine-shop practice, printing, electric wiring.
2. That suitable work in the following academic subjects be correlated with the work in the vocational subjects; English—reading, spelling, writing, grammar and composition, arithmetic, history and civics, geography, physiology and hygiene.
3. That at least half of the time of each school may be devoted to vocational subjects and the remainder of the time to academic subjects. The course, in detail, will be submitted by the committee at a later date.

4. That a three years' course of study be provided, known as the sixth year, seventh year, and eighth year, paralleling the same years in the academic elementary schools, but that the course be so arranged that pupils entering who have completed six or more years of the elementary school course, may complete the vocational course in two years. In case a pupil can meet all of the academic requirements of the Vocational School on entering the same, we recommend that he be allowed to complete the course in one year, provided he devotes all of his time to vocational subjects.

5. The average fourteen-year-old boy who has only completed the fifth grade in the elementary school, is, as a rule, not in a position to make a choice of a vocational subject. Until his teachers know something of his tastes and abilities, they are not able to advise him properly. In order, therefore, that there may be some basis for the choice of a vocational subject, we recommend that introductory courses of ten weeks each be organized during the first year, and that each pupil be required to take two or more of these introductory courses, unless excused by the principal. Not later than the beginning of the second year, each pupil shall choose a vocational subject out of the list of those in which he has previously taken the introductory course, and must complete the course prescribed in that particular subject, as well as the prescribed academic work, in order to be graduated from the Vocational School.

6. Any pupil completing the course of study prescribed for the Vocational School shall be graduated and presented with the diploma of the school. This diploma shall entitle the holder to enter the Bayonne high school without an examination. A year's work in the Vocational School shall be equivalent to a similar year's work in the academic elementary schools, and a pupil who has taken seven years' work in the elementary schools may receive an elementary school diploma on completing the eighth year's work in the Vocational School.

7. Unless ordered otherwise by this Board or the superintendent of schools, no boy shall be admitted to the Vocational School unless he is fourteen years old, and has completed the work of the fifth grade in the elementary schools of this city or the equivalent thereof.

8. We further recommend that any boy who is employed or may hereafter be employed part of the time, but can attend school certain hours of the day, or certain days of the week, be admitted to the Vocational School and given credit for any satisfactory work he may do in that school whether it be in vocational or academic subjects.

9. We also recommend that what is known as the "credit system" be introduced in the Vocational School, and that pupils be promoted by subjects rather than by classes.

10. On recommendation of the principal and approval of the superintendent, we recommend that a pupil may be given credit for work done outside of the Vocational School as follows.

a. Credit for one half year's work in any vocational subject taught in the school, or which may be approved hereafter by the Board of Education, provided that the pupil works three hundred hours or longer under a competent foreman, and provided further that the quality of the work is approved by the instructor of the department and the principal of the Vocational School.

b. Credit for any academic course satisfactorily completed in the summer or evening schools provided the principal of such school certifies that the academic work prescribed for any course in the Vocational School or its equivalent has been fully covered and that the pupil's work has been done in a satisfactory manner.

Of the courses outlined above printing and electric wiring are new this year.

The patrons of the school were doubtless inspired to increased confidence in the faculty of the school by facts regarding their preparation, published in one of the evening newspapers. The principal is a college graduate, a journeyman pattern-maker and has had ten years' experience in administration of industrial schools. The instructor in woodworking is a journeyman pattern-maker with twelve years' experience and four years' teaching experience. Another member of the faculty is a licensed architect and machinist of twelve years' experience. Such preparation should insure a practical basis for the teaching, at least.

THE KENOSHA CONTINUATION SCHOOL.

An example of the working out of the Wisconsin law is found in the continuation school at Kenosha, under the direction of R. W. Tarbell for boys' work, and Miss Laura E. Hahn for girls' work. Manufacturing interests predominate in Kenosha, and it has about thirty-five employers of child labor. The continuation school was opened in the fall of 1912, under the auspices of the Continuation School Board. Arrangements were made for the attendance of the children working for these thirty-five employers, for five hours a week, as required by law.

The work of the school was first to take care of these "permit" children, as they are called. About three hundred boys and girls working on permits were enrolled. In addition to these provision was made for continuation instruction for apprentices; for evening school for people over sixteen years of age; and for all-day industrial instruction for children temporarily unemployed and exceptional children.

The permit boys came on specified days, in classes of from twenty to twenty-five, and were instructed in manual training, cabinet-making, and elementary mechanical drawing for about three hours of the required five. The remaining two hours were devoted to business practice (which included arithmetic, letter writing, etc.), English (which included reading and discussion of the events of the day), civics, hygiene,

consisting of reading and practical talks brought straight home to the life of the average boy of fifteen, and safety devices, the latter by means of pamphlets prepared by the State Industrial Commission and by general discussion.

The permit girls spent two hours on sewing and one on cooking, and the remaining two hours on academic work, similar in general character to that for the boys, but adapted in detail to the needs of the girls.

In the evening school twelve classes were organized as follows: five in English for foreigners, one in mechanical drawing, one in bookkeeping, one in stenography, one in mathematics, one in domestic science, and two in electricity. About two hundred and fifty were enrolled in these classes.

Few students appeared for the apprentice or all-day school. There are few apprentices in the state, but it is expected that in time the all-day school department will develop into a full-fledged trade school.

Numerous improvements and changes will be made this year, and the equipment is being enlarged. The supervisor feels that the facilities should be improved so that no one teacher would have over fifteen pupils in a class, since much individual attention is necessary.



We give below the terms of agreement between the Rochester, New York, Typothetae and the Rochester Shop School, an agreement which represents a very progressive attitude on the part of employers of labor. Alfred P. Fletcher, assistant superintendent of Rochester schools, thru whose courtesy we are able to print this agreement, says that "the problem of education for many boys will never be solved unless we can find some way of having them earn while in school." The arrangement with the Typothetae gives such an opportunity and the school expects to arrange similar opportunities in other trades in Rochester.

AGREEMENT BETWEEN THE ROCHESTER TYPOTHETAE AND THE ROCHESTER SHOP SCHOOL.

The term of apprenticeship in the printing trade shall be four years, three months of which shall consist of a preliminary or "try out" course at the Rochester Shop School. During this preliminary course the fitness of the pupil for the printing trade shall be determined.

Upon completing this preliminary course, the pupil may enter the employment of some printing plant as an apprentice, the Typothetae agreeing to provide

places for a certain number of pupils each year. The apprentice shall alternate weekly between the Shop School and said printing plant, and is to receive from the employer a weekly wage of four dollars for the balance of the first six months, four dollars and fifty cents for the second six months, five dollars for the third six months, and five dollars and fifty cents for the fourth six months. The employer is to pay wages for the school time as well as for shop work.

After this period, having faithfully performed his duties, he may devote the remainder of his apprenticeship entirely to the shop, and for which he shall receive nine dollars per week for the first six months, ten dollars per week for the second six months, eleven dollars per week for the third six months, and twelve dollars per week for the fourth six months, during which time, however, he shall be considered under the supervision of the Shop School, and upon completion of the school term and apprenticeship, having passed all the examinations and being graduated from the Shop School, he shall receive from the employer as a gratuitous bonus, in addition to his salary and not as any part thereof, the sum of one hundred dollars.



The first annual report of the Continuation and Industrial Schools of Sheboygan, Wisconsin, gives the following figures:

For the boys' department.

Total enrolment	319
Withdrawals, 16 years of age	55
Percent complying with law	94½
Number attending more than the required time.....	50

The distribution of enrolment by occupation gave the following result: factories, 255, messenger service 4, department stores 9, miscellaneous 35.

For the girls' department.

Total enrolment	247
Withdrawals, 16 years of age	52
Percent complying with the law	98
Number attending more than the required time.....	109

Distribution of enrolment by occupation; factory, 156, housework, 9, at home, 70, stores 12.



What the printers think of vocational training may be judged to some extent from the following remarks, made by J. M. Thomssen, President of the Federation of Ohio Printers, at the annual convention in September:

"Printers everywhere are finding it difficult to fill vacancies in their plants. Apprentices are much less numerous than years ago. Soon there will be a

dearth of competent journeymen. Something must be done to fill up the ranks of those that retire from the active pursuits of life, and more must be done to provide for the increase of business that every man expects as the years roll by.

"Manual training is taught in most of the school in our cities, but this training does not go far enough. In former years most of our apprentices came from the boys that never saw the inside of a high school. If ambitious, the boy would make up his lack of education by attending the night schools. Frequently the lad went to work too soon for his own good. The state has stepped in and wisely prevented this.

"But what remedy can be suggested and what can be done to fill up the gaps among our apprentices? Vocational training in the public schools is the only remedy. Why not have a school of printing in connection with one of the elementary schools of our cities—a school where a boy, say, of thirteen years of age can work one half of his time in the school of practice under a competent instructor, and the other half of his time take up such special studies as will be most beneficial in the special trade that he proposes to follow. With three years of special training in the public schools, that boy will be ready and equipped to enter the employment of some one at wages that will be more than double that which he would have got without that training. We must so train our boys that they will be the very best mechanics in the world. Germany has set us an example that we may well follow."



At McComb City, Mississippi, is found a cooperative vocational course maintained by the high school in connection with the shops of the Illinois Central Railroad. The boys are paired for this work as in Fitchburg and at the University of Cincinnati.

The school requires that a student electing the cooperative course be of good steady character, sixteen years of age, and that he stand all regular examinations and prepare all the regular work in the subjects of his course, which must include English, mathematics, and one other subject selected from the history, science, or Latin group.

The school grants one and one-half credits each year for the vocational work and gives the student the regular diploma at the end of the four years' course.

The railroad company, on its part, requires that the student be well developed physically, mentally, and morally, and expects earnest work. The pupils may enter any of the departments in the shops at a rate of not less than twelve cents an hour, to be raised according to efficiency. The pupil is given a journeyman's certificate after he has completed the four years' high school course and one additional year in the shops, provided he has worked in the shops Saturdays and during the summer months.

Several boys who had left high school returned last year because they were enabled by this new course to gain an education, preparation for a trade, and a monthly wage of from fifteen to eighteen dollars all at the same time. The school authorities believe that should these cooperative students decide at the end of their course to go on to college and study for one of the professions they will find the cooperative work a help rather than a hindrance, for they receive the same diploma as other students, and they have gained in addition a capacity for hard work that will be a great asset, and a practical training which will serve as a good foundation for any branch of engineering.



The public school authorities of Gary, Indiana, have taken another progressive step in establishing, this year, a department of agriculture. The Board of Education had available a farm of 160 acres, formerly used as a parental school. It has been transformed into an up-to-date laboratory for agricultural instruction for such pupils of the Gary schools as wish to learn the farming profession. The department receives the benefit of expert instruction from Purdue University, which has the direct supervision of courses and methods. The farm sends daily reports to the University which responds with a monthly bulletin of advice and instruction. Classes are open from May 1 to September 1. The farm is located thirteen miles from Gary on an interurban line. A. N. Boyer, of the Michigan Agricultural College, is in charge.



Hawaiian youths are receiving industrial training of a very practical kind at the Hilo Boarding School, according to an article in the *Hawaiian Educational Review*. Farming by means of advanced methods and machinery, dairying, blacksmithing, carpentry, roadmaking, cement and concrete construction, and printing are included in the curriculum. Many other lessons in industrial life are acquired in an informal way in the work of repair and upkeep of the school. The boys are shown how to make simple machinery and implements to replace the time-consuming primitive tools. The general plan is to give each youth some experience in all departments, to teach him to be an all-round useful citizen, with skill in home crafts. Toward the end of the course he is allowed to specialize in some one trade which he expects to follow as a life work.

FOREIGN NOTES

By H. WILLIAMS SMITH.

Mr. William Archer, one of the foremost dramatic critics in London, is also a brilliant writer on education, and to him has been attributed the thought-compelling book "Let Youth but Know: Chapters on Education, by Kappa." In a recent article in *The Daily News*, he deplores the antithesis between "knowledge" and "character," and says, "Why should not the acquisition of knowledge and the formation of character go hand in hand?" He affirms that "the education of the young is full of compromises, insincerities, and non-committal makeshifts. Therefore it is that so much time is given to work which is irrelevant to the building of character—to the linguistic and literary futilities which are supposed to afford a valuable mental "gymnastic." Perhaps they do! but is it to be doubted than an equally valuable gymnastic could be found in studies which have a practical bearing upon the scheme of things in which we live and move and have our being? When there is so much real work to be done in the world, why should we train our intellectual muscles on a treadmill which does no real work? The reason is simply that we cannot agree upon a truly dynamic course of training, and are consequently content to let our children "mark time" as harmlessly as may be." That metaphor of the treadmill is well chosen, and of the sort that sticks in the memory. It is remarkable that such a protest on behalf of vocational education should come from a brilliant man of letters.

Increasing attention is being paid to education by the English Press, and to vocational education more, perhaps, than to any other department. Here is a point of view from *The Daily Sketch*, which, whether we agree with it or not, is very fresh and striking in its way. "If a boy is to become a fine workman he must start early; if a boy is to become a skilled farmer he must start earlier still. He must not have his mind stuffed with a cargo of irrelevant facts that he has later to chuck overboard. He must come to his real life-work fresh and eager. The business of the school is to give him the elements of knowledge, to teach him how to use a library, to teach him the virtue of discipline, and to leave his youthful eagerness unimpaired. And you cannot teach workmanship from a school

book, nor, indeed, in a school workshop. It is only in a real shop dealing with real workaday problems that a boy becomes handy and clever in dealing with them. The technical schoolboy knows all about it and can't do it. So I venture to suggest to our educationalists that what we seem to need is a national system of apprenticeship." It is a regrettable fact that too often our polytechnic and trade schools are divorced from or out of touch with the requirements of the trades for which they aim to prepare their pupils. The teachers in these institutions have, in too many cases, not practiced a trade themselves or have severed themselves almost completely from everyday practice, and thus their instruction has become almost as academic as that of a Greek or Latin master.

The cry for a resuscitation of apprenticeship comes even from such a hard-headed leader of commerce as Mr. A. W. Gamage, whose great stores on High Holborn are, doubtless, known to many Americans. It is with all the apparatus for games and sports that Mr. Gamage's name is chiefly associated, but he will sell you almost everything else from a packet of stationery to a "Stanley" plane. He says, "Lads fresh from school are often bad writers and weak in arithmetic. And they are too much inclined to play." For that reason his firm employ few boys. They found that a large number became a nuisance. "The remedy for the want of business training is to revert to the old apprenticeship system," said Mr. Gamage emphatically. "Boys under indentures would feel that they had to stick to their work." He is not in agreement with Messrs. Harrod's suggestion for a Business University. This suggestion emanated from Mr. Richard Burbridge, the managing director of Harrod's Stores in Brompton Road, one of the largest and best paying of London's enterprises. Mr. Burbridge is favorable to the institution of a business university to be maintained by a number of great firms like his own, the graduates from which would readily find employment with the supporters of the University and in business life generally.

Over against these views favorable to revived apprenticeship may be set those of a leading London maker of pianos. He avows that vocational education is far to be preferred before apprenticeship. He says truly that men no longer make pianos, but spend their lives in making parts of pianos, and that it would be folly to apprentice a boy to the making of that part. What he desires is the boy who has been rendered somewhat adaptable and dexterous by a good general preparation for vocation.

The true path seems to be one of compromise, whereby the boy shall spend part of his time in the trade, and part in the trade-school. There are not a few British firms which are treading the way to this desirable end.

Mr. Sylvester Horne, M. P., is the pastor of Whitfield's Tabernacle, Tottenham Court Road, and, speaking there recently, he said:—"There should be at least half an acre of land attached to each village school, so that the children might learn gardening and agriculture. These schools should be lined up with agricultural colleges, to enable eligible children to go to the Universities and then return to their villages and put a little intelligence into agriculture." There was an old English couplet which ran:

God bless the Squire and his relations,
And keep us in our proper stations. Amen.

That sort of feeling is still strong, but men like Mr. Horne are helping to put an end to it. It is really refreshing to have a minister not dinning on the need to have the Bible in the schools, but half an acre of land round them.

That Sir Robert Baden-Powell should be appointed Minister of Education, with plenary powers, for the next ten years was the proposal made at a meeting in the Educational Science Section of the British Association. It must have been uttered less in jest than in earnest, for it came from Dr. E. H. Griffiths, Principal of Cardiff University, who is profoundly dissatisfied with our present educational methods. Sir Robert is, in the view of Principal Griffiths and also in the views of all who take the pains to study the Scout movement, the greatest educator of our time. Dr. Griffiths says that the boy scout ideals and practice are doing greater service than all the complicated state machinery in preparing lads for the struggle of life; and that in remodeling our educational system we should do well to follow more on the lines laid down by the Chief Scout. What a pregnant reflection it is that a British soldier, who leaped into transient fame as the gallant defender of a little South African fort, should achieve enduring fame as the founder and promoter of an educational reform, beside which the official doings of all the Boards of Education seem but so many faltering and feeble efforts.

The increasing demand of the great liners for cooks has prompted the Liverpool Education Committee to start a special class in one of its schools, where the elder boys who intend joining the service can obtain an efficient training in all branches of the culinary art. The class was visited recently by the Chairman of the Cunard Line and other Liverpool shipping magnates.

The East Sussex Education Committee maintains a school of domestic economy at Lewes to which pupils of fourteen and over are admitted for a course of twenty-two weeks at a charge of 8/- per week, which fee includes board and lodging, tuition and laundry. Another residential school of domestic economy is that maintained by the Kent Education Committee at Bromley, where instruction is given in cookery, needle-work, dressmaking, laundry work, hygiene, English, arithmetic and physical exercises.

The Brighton Education Committee maintains a very successful municipal school for home training, in which the pupils do the daily work of the school and house, and each group in turn receives six weeks' practical experience of complete house-keeping in the model home.

A number of domestic servants recently competed at an examination held in Westminster Technical Institute for 18 scholarships offered by the L. C. C., entitling the winners to a free course of instruction in superior household cookery under a qualified chef. The examination was conducted by the L. C. C.'s organizer of girls' trade schools.

A school at Kensington and another at Limehouse have been selected by the L. C. C. for an experiment in the form of an industrial curriculum. These schools are attended by poor but normal children. It is not suggested that the schools shall be trade schools, but that a large amount of manual training shall enter into the curriculum. In the senior divisions half the total school hours will be given to wood and metal work, metal-plate work, leather work, electric wiring and fitting, including simple turning, and the elements of mechanical engineering.

REVIEWS

Industrial Mathematics. By Horace Wilmer Marsh, Head of Department of Mathematics, Pratt Institute. John Wiley & Sons, New York, 1913. 8x5½ in.; pp. 477, with many diagrams and other illustrations; price, \$2.00, net.

The following from the author's preface gives the purpose of the book:—

"The text is designed to furnish the mathematics which is indispensable to the shop foreman or master mechanic, to the pursuit of industrial studies, the use of engineering handbooks, and the intelligent reading of technical periodicals and other publications regarding the industries in which one is seeking advancement or information."

It takes up the subject under the following heads: The fundamental operations, powers and roots, fractions, weights and measures, measuring instruments, taper, mensuration, weight, screw cutting, pulleys, belts, horse-power, solution of equations, logarithms, the slide-rule, the solution of a triangle.

L'Année Pédagogique, by L. Cellérier and L. Dugas. Published by Félix Alcom, Paris, 1911.

This book is nothing less than an international bibliography of educational discussion published annually. It is a book of 487 pages well arranged, well printed and bound in paper. The most important feature of the book is the digest which is given of nearly every article listed; This adds immeasurably to its value. The material is well classified and very completely indexed. The first eighty-four pages are devoted to editorial discussions of the following topics:—The School and Life, Ideals and Education, Sympathy in Education, Psychological Study of Methods of Teaching, and Primary Education.

In the introduction the editors point out that the science of education is receiving more and more general attention. This is noticeable in France, but it is still more so in Germany, where recent statistics indicate that there are now published more than four hundred periodicals treating of education. In Anglo-Saxon countries, also, pedagogical questions are followed very closely. Especially is this true in the United States.

The object of this pedagogical annual is to prevent the loss to educational literature of the fruits of so much current discussion. It aims to collect, analyze and present the results as a whole. It groups together systematically the results of investigation. It presents all points of view.

The leaders in this enterprise are rendering a great professional service.

Gas Power. By C. F. Hirshfeld Professor of Power Engineering, Cornell University, and T. C. Ubright, Instructor in the same department. John Wiley & Sons, New York, 1913. 7¾x5¼ in.; pp. 209; price, \$1.25, net.

This is a comparatively simple and reasonably non-mathematical textbook on gas, gasoline, and oil engines.

Shop Arithmetic. By Earle B. Norris and Kenneth G. Smith. McGraw-Hill Book Co., New York, 1912. 9x6 in.; 187 pages; price, \$1.50, net.

This is part one of a series of textbooks on shop mathematics prepared in the Extension Division of the University of Wisconsin. The book aims to teach the fundamental principles of mathematics to shop men, using familiar terms and processes, and giving such applications as will maintain their interest. The problems relate largely to the metalworking trades. The subject is taken up under the following heads:—Fractions, money and wages, percentage, circumferences of circles, ratio and proportion, pulleys and gear trains, areas and volumes, square root, mathematical tables, levers, tackle blocks, the inclined plane and screw, work power and energy, horse-power of engines, mechanics of fluids, heat, strength of materials.

The Elements of Structure. By George A. Hool, Assistant Professor of Structural Engineering, the University of Wisconsin. McGraw-Hill Book Co., New York, 1912. 9x6 in.; 188 pages.

This textbook was developed solely with the idea of using it in correspondence-study. It is therefore intended to be simple, direct and interesting. It covers definitions, loads and structures, principles of statics, reactions, shear and moment, influence lines, concentrated load systems, stresses in truss members, design of structural members, use of steel handbook, the structural shop, and shop drawing.

Practical Sheet and Plate Metal Work. By Evan A. Atkins, Head of the Metal Trades Department of the Municipal Technical School, Liverpool. Whitaker & Co., London, 1908. 7 $\frac{1}{4}$ x5 in.; pp. 491 with over 400 illustrations. 6 s net.

This book was written for the use of boilermakers, coppersmiths, sheet-metal workers, tinsmiths, etc. The book treats of a wide range of typical problems—pipes, elbows, hoods, boxes, conical objects, elliptical work, roofing, ventilators, bulbs, kettles, vases, tanks, riveted work, beaten work, etc. etc. It is the most comprehensive book we have seen on the subject, and is highly recommended by an English teacher who ought to know its value.

Heat. A Manual for Technical and Industrial Students. By J. A. Randall, Instructor in Physics, Pratt Institute. John Wiley & Sons, New York, 1913. 7 $\frac{3}{4}$ x5 $\frac{1}{4}$ in.; pp. 331; price, \$1.50, net.

This textbook "emphasizes the applications of the fundamental principles of the subject to the various commercial and engineering processes in which they are the controlling factor."

Essentials of Electricity. By W. H. Timbie, Head of Department of Applied Science, Wentworth Institute, Boston. John Wiley & Sons, 1913; 7x4 $\frac{3}{4}$ in.; pp. 271; price, \$1.25, net.

This textbook has been written to supply a demand for a brief text for the use of students going into the electrical trades. It gives what the successful "man on the job" must know and presents it clearly and forcibly.

Hygiene for the Worker. By William H. Tolman, Director of American Museum of Safety, New York City, and Adelaide Wood Guthrie, Department of Research, American Museum of Safety. American Book Company, 1912. $7\frac{1}{4} \times 5$ in.; 201 pages; price, 50 cents.

This textbook is designed for boys and girls from thirteen to eighteen years of age, especially those in vocational, industrial, continuation and night schools, tho it is of value to all workers, old or young. The book has been prepared by experts and is based on actual shop conditions. It deals with matters of first importance to good health, happiness and efficiency.

Agronomy. A course in Practical Gardening for High Schools. By Willard Nelson Clute. Ginn and Company, Boston, 1913; $7\frac{3}{4} \times 5\frac{1}{4}$ in.; pp. 296; price, \$1.00.

This textbook has been written to supply a need in high schools of cities and towns where agriculture is taught. Most other books have been written with the farmer's boy and the country school in mind.

RECEIVED.

The Principles of Parallel Projection—Line Drawing. By Alphonse A. Adler, Instructor in Mechanical Drawing and Designing, Polytechnic Institute, Brooklyn, N. Y. D. Van Nostrand & Co., New York, 1912. 9x6 in.; 66 pages; price, \$1.00.

This is essentially a course in projection drawing preparatory to descriptive geometry.

A Trade School for Girls. A Preliminary Investigation in a typical manufacturing city, Worcester, Mass., by the Research Department of the Woman's Educational and Industrial Union of Boston, under the direction of Susan M. Kingsbury and May Allison, with an introduction by C. A. Prosser. Bulletin No. 17, 1913. United States Bureau of Education, Washington, D. C.

Agricultural Instruction in Secondary Schools. Papers read at the third annual meeting of the American Association for the Advancement of Agricultural Teaching. Bulletin No. 14 of United States Bureau of Education, 1913.

Choosing an Occupation. A list of books and references on vocational choice, guidance and training in the Brooklyn Public Library. Single copies may be obtained without charge on application to Frank P. Hill, Brooklyn Public Library, 26 Brevoort Place, Brooklyn, N. Y.

The David Ranken Jr. School of Mechanical Trades, St. Louis, Mo. Fourth annual catalogue, 1913.

Industrial Education in Columbus, Ga. By Roland B. Daniel. An illustrated bulletin of 30 pages issued by the United States Bureau of Education.

VOCATIONAL EDUCATION

JANUARY, 1914

HOW SHALL WE STUDY THE INDUSTRIES FOR THE PURPOSES OF VOCATIONAL EDUCATION?

CHARLES R. RICHARDS.

WE have had of late years a large number of investigations or surveys which have had for their purpose the development of data upon which to formulate measures of vocational education. The results obtained by many of these surveys have not seemed commensurate with their expense, nor perhaps, on occasions, with their pretensions. Their frequent weakness has been that the data obtained has not been of a nature capable of interpretation in definite educational terms. The present paper represents an attempt to suggest principles and lines of investigation that may be turned to immediate practical account. Its direct purpose is to formulate lines of inquiry that will enable data to be obtained by which the value of vocational instruction to a community or an industry may, with some accuracy, be determined.

If we analyze the relations of education to industrial workers, we find three possible ways in which the welfare of such workers may be promoted thru training or instruction.

A. Their industrial efficiency may be improved either as regards skill or technical knowledge.

B. Their general education may be extended.

C. Opportunities for physical and mental recreation and stimulation may be presented whereby the monotony of automatic tasks may be relieved and the narrowing or cramping influences surrounding the daily work neutralized.

It is conceivable that all three of these forms of improvement might be of service in a given industry, but as a general thing we would find some one of these elements standing out as the important need.

It is evident that only the first of these divisions constitutes the field, in any strict sense, of vocational education. The other two lines may be equally valuable and important to the well-being of the workers under certain conditions, but they do not constitute in a strict sense vocational education. The second is concerned with the extension of general education. This may happen under many conditions to be the most needed and helpful influence that education can bring to bear. The third relates to numbers of factory and mill trades where the conditions are such that a combination of physically recreative and mentally stimulating experiences may be the most important benefit that can be brought into the lives of young workers.

Before beginning any survey destined to develop a program of vocational instruction, it is evident that substantial indications should be present pointing to educational opportunities along division "A". Such evidence should indicate first of all that there is large need in the industries of the community under consideration for further skill or technical knowledge that cannot be entirely supplied in commercial practice, and furthermore, that this need is worth supplying. To be specific we should know whether considerable difficulty exists in obtaining efficient workers, and whether the industries represented are of sufficiently high grade and stable character as to afford employment that insures a fair standard of living. Besides these facts we should know certain things as to the general industrial situation in the community, such as the proportion of industrial workers to the total population; the economic status of the community and its social attitude towards industrial work; the situation as regards variety and concentration of industries; racial traditions as regards the use of the child as an income asset; the habit of the community in regard to the use of educational opportunities; whether the industries concerned represent on the whole healthful occupations; whether they represent on the whole industries that from the civic and social standpoint are desirable to encourage.

THE PRELIMINARY SURVEY.

To secure such an outlook might in cases require a preliminary survey. If so the methods and conclusions of such an inquiry should be based upon its particular purpose and should be thoroly distinctive in methods and conclusions from investigations of the type to be hereafter considered, that aim to develop data which can be used as a basis of a constructive program.

As a result of such a preliminary outlook upon the situation, we should be able to determine roughly, but with some accuracy, whether the prospects for the introduction of vocational education of real benefit to the community are such as to justify an intimate investigation of the industries.

Before attempting to formulate the lines of such an inquiry, it may be well to point out that the propositions submitted are based upon the assumption that our main progress in vocational education is to be made by adapting instruction to the specific needs of different industries rather than by setting up general types of vocational instruction and inviting workers or would-be workers to partake thereof. This leads directly to the conclusion that an investigation that aims at direct constructive results from the educational side, should address itself to the study of each of the important industries or types of industry represented in the community.

The first effort of such an investigation would then endeavor to ascertain whether the industrial efficiency of those engaged in any industry, or those intending to enter the industry, may be improved either as regards skill or technical knowledge. In order to develop the lines of such an inquiry, the following analysis may be of service.

In general there are two aspects to every industry. (*a*) The purely manipulative side, that is, skill or dexterity which may be denoted by *S*, and (*b*), the technical side consisting of knowledge or information, which may be called *T*. By such knowledge or information is meant such subjects as drawing, properties of materials, shop calculations, trade processes, scientific principles that underlie trade methods, etc. The efficiency of a worker as far as it relates to teachable quantities is dependent on a combination of these two elements, and may be expressed by the equation $E=S+T$. Of course efficiency means a number of other things besides skill and technical knowledge. A thoroughly efficient worker must possess in addition at least carefulness, faithfulness, willingness, thorowness, and soberness, but these things are general qualities of character and temperament and are not directly teachable.

Different industries vary greatly as to the amount of these two elements needed to secure efficiency. The following different cases and intermediate conditions stand out:

- (A). Both skill and knowledge are needed.
- (B). Skill is needed but no technical knowledge.
- (C). Technical knowledge is needed but not skill.

(D). Neither skill nor technical knowledge is needed except in a very low degree.

Not only does the need for the two elements vary greatly in different industries, but the opportunities for acquiring either or both of these elements in commercial practice are a matter of great variation. Under (A) we may have three sets of conditions:

1. Where the worker can obtain both skill and requisite technical knowledge in regular employment.

2. Where he can acquire skill but not technical knowledge.

3. Where he can obtain technical knowledge but not skill.

Under (B) there are represented two cases:

1. Where the learner can obtain skill in regular practice.

2. Where he cannot.

Under (C) likewise there are two typical conditions:

1. Conditions under which technical knowledge can be acquired.

2. Conditions under which it cannot be obtained.

These cases as above noted represent extreme conditions, between which there are to be found intermediate stages.

LINES ALONG WHICH INQUIRY SHOULD DEVELOP.

From this analysis follows the first line of the proposed inquiry.

1. *Need for skill or technical knowledge.*

If conditions vary, answers should be obtained for each important department.

a. Is skill or technical knowledge or both needed for efficiency and progress in the industry.

b. Can skill be obtained in whole or in part under conditions of regular employment.

c. Can the technical knowledge required be so obtained.

By the answers to these three questions we should be able to determine pretty conclusively whether vocational education has any real function in connection with a given industry, and to determine what the general lines of such an education should be. For example, cases would be found where both skill and technical knowledge are needed in the industry. It will also be found, however, that in many of these cases under common conditions, the requisite skill may be obtained in practical work, but that the technical knowledge required for progress and full efficiency is not readily obtained. Such returns would indicate that in these industries organized school instruction along technical lines may be of service.

Again cases would develop where skill represents the important element in efficiency and where technical knowledge is of small account. Under such cases might occur instances where the requisite skill cannot be obtained under conditions of actual practice. Here again is indicated a case where the school may have a possible place in this instance for training on the manipulative side.

The indications from these questions can be readily illustrated by a number of concrete cases.

From thirteen machine-shops, among which were a number of repair shops, the following uniform replies were received:

- a. Both. b. Yes. c. No.

In the case of these shops, a need for technical instruction not provided in these particular shops, is apparent.

In the case, however, of certain manufacturing machine industries where a uniform product is made, and automatic machinery and extreme division of labor carried to the extreme, it is evident that the answers would inevitably be as follows:

- a. Small amount of skill. b. Yes.

In such a case, as far as the direct or immediate needs of the workers in the establishment are concerned, there is no indicated need for outside schooling. Whether it is desirable to provide limited school opportunities for small self-selected groups, who may wish to prepare for foremen's positions, or for entrance into establishments of another kind, is a question that can be answered only by intimate knowledge of particular conditions.

Returns from the furniture factories of Grand Rapids reveal conditions very similar to the above. From a number of factories the answers are as follows:

- a. Both. b. Partly. c. No.

From one factory where a very specialized product is made, the answers were:

- a. Both in a small degree. b. Yes. c. Yes.

From several book and job printing establishments, the following replies relating to compositors were received:

- a. Both. b. Partly. To a large extent. Yes. c. No.

The question is raised here whether additional facilities for training in skill are needed for compositors. The need for additional technical knowledge is indicated in all replies. Technical instruction in this case might include the various sizes and kinds of type, appropriate use

of the same, size of margins, arrangements of headings and other questions involved in composition.

Four replies were obtained from master-plumbers, as follows:

- a. Both.
- b. No.
- c. No.

These replies would seem to indicate that in the locality where the establishments were situated, provisions for training, both in hand skill and technical knowledge, are needed.

From a number of cotton mills the replies below, which relate to weavers, were received:

- a. Skill only.
- b. Yes.

On the other hand the following answer was returned as regards loom fixers:

- a. Both.
- b. No.
- c. No.

The two sets of returns indicate that while no apparent demand for special training exists for the large majority of operatives, there is a need for additional facilities for the training for the superior positions.

From a number of returns from firms making shirtwaists, the following type reply is condensed.

- a. Skill only.
- b. Not wholly for higher grades.

From a manufacturer of men's clothing, the replies are:

- a. Skill only.
- b. Yes.

To further determine the exact type of school best fitted to supply the needed instruction, the following lines of inquiry are desirable:

2. What are the opportunities represented by the industry?

a. The relative number of persons employed in the upper and in the lower stages of the industry.

b. The average wages in the upper and in the lower grades.

c. Proportion of new employes each year as compared to the total number of employes.

d. Is the industry intermittent or steady?

3. In what ways is the industry recruited?

a. Is difficulty experienced in obtaining efficient workers?

b. Is difficulty experienced in obtaining efficient foremen?

c. How are high grade workers recruited, by promotions from below or by direct employment?

d. Are untrained beginners wanted by employers?

e. Different ways in which beginners enter the occupation.

f. Average age at which beginners enter the occupation. Preferred age from employers' standpoint.

- g. Percentage (as related to total number of employes) of those between fourteen and sixteen years of age entering during one year.
- h. Percentage of those between sixteen and eighteen years of age entering during one year.
- i. Average amount of general school training represented by beginners.
- j. Average wages paid beginners during first two years.
- k. Percentage of beginners leaving in the space of one year.
- l. Percentage remaining in low paid work at end of six years.
- m. Percentage advanced to skilled or responsible work at higher wages at end of six years.

4 In what ways do workers obtain training?

- a. Have all beginners opportunities to learn more than one operation or kind of work?
- b. The different kinds of work or departments represented in the industry.
- c. Are there opportunities later on for those showing ability to change from one department to another?
- d. Is the occupation open at the top for all beginners with requisite ability?
- e. Does the worker receive any instruction or training from the employer?
- f. Can the work be acquired with little or no instruction?
- g. Is there an apprenticeship system?
- h. What percentage of all young beginners are apprenticed?

5. What are the qualities demanded in a worker?

Is strength, endurance, intelligence, quickness, accuracy, dexterity, carefulness or artistic feeling needed?

6. What are the conditions under which the work is performed?

- a. Does the work involve any peculiar physical or nervous strain, or present peculiarly unhealthy conditions?
- b. Are the nature and conditions of the work such as to stimulate the intelligence of workers, or such as to narrow and restrict their growth?
- c. Are the influences surrounding the work morally deteriorating?

7. Relations of occupation to school training.

- a. Is the industry hampered by any lack of knowledge or training on the part of beginners?
- b. Is general school training beyond the "working paper" grade of value for success in the occupation?

- c. Is general school training beyond graduation from grammar school of advantage?
- d. Is a complete high school education of advantage?
- e. Is industrial school training in any form an advantage?
- f. If either general or vocational training is an important advantage, just what kind of training is most necessary for efficiency? (1) General knowledge; (2) Industrial and economic intelligence; (3) Specialized technical knowledge; (4) Manipulative skill.
- g. Would such instruction be most helpful if obtained before entrance upon the occupation or after?
- h. Would the manipulative skill, industrial intelligence, and technical knowledge that may be acquired by pupils from fourteen to sixteen years of age in an all-day school, be a substantial asset in giving added chances of employment and of advancement?

As a result of the above lines of investigation, it should be possible to determine first of all whether the situation in the particular industry is such as to make school instruction in some form desirable from the standpoint of added efficiency, that is, whether the industry requires some form of skill or technical knowledge that is not readily or satisfactorily obtained under conditions of regular work.

Secondly, granted the above need is indicated, these lines of inquiry should allow us to determine whether the industry represents economic, sanitary, and other conditions that justify the community in providing means to assist its workers.

Thirdly, they should indicate with some degree of definiteness what type of vocational school work is best adapted for serving the industry, that is, whether an all-day industrial school or trade school dealing with pupils before entrance into the industry, or part-time day classes, or evening classes, is needed, and to what kind of subject matter such classes should address themselves.

Finally, if it is desired, we should be able to ascertain in cases where vocational instruction is not an indicated need, whether general school instruction or social welfare work is an important need of the worker.

APPLICATION TO TYPICAL CASES.

To illustrate the way in which such data might be interpreted in terms of a constructive program, let us examine two or three typical cases.

Case 1. In this industry both skill and technical knowledge are required for efficiency. The requisite skill is obtainable under conditions of practical work but not technical knowledge. The possibility of outside school instruction to supply this technical knowledge is, consequently, indicated. It is further found that difficulty is experienced in obtaining efficient high grade workers; it is also found that the industry presents adequate economic returns; that the conditions of work are satisfactory, and that opportunities for advancement are open. It is also found that beginners are not admitted below sixteen years of age. Such conditions taken by themselves would indicate possibilities for either a preparatory trade school for those between fourteen and sixteen years of age, part-time day classes, or evening classes.

To determine which of these schools is best fitted to the needs of the industry, our inquiry would point out whether the all-day school training below sixteen would be of real value. If this is held not to be the case, then the alternative of part-time or evening school is presented, and a further and more intimate study would probably be required to finally determine which of these is most desirable.

Case 2. Skill is needed but little technical knowledge. Difficulty is experienced in obtaining efficient high grade skilled workers; wages of high grade workers are good; conditions of workers fairly satisfactory; opportunities for obtaining skill needed for advancement are small; beginners enter in large numbers at fourteen to sixteen years of age and obtain fair wages. Such conditions indicate the possibility of a day preparatory school with short term courses, part-time classes, or evening classes. Further study as to whether any substantial degree of skill could be imparted in a day industrial school, whether boys or girls would attend such a school in any considerable numbers, and whether employers would allow attendance on part-time day classes, would be needed to determine the best adjustment.

In a word, such an inquiry should bring us the data to determine, in cases where vocational instruction is needed, pretty nearly the type of school or classes best fitted for the conditions. To make the final analysis and determine the exact form of school organization best adapted to the situation, would probably require in many instances the services of the expert in industrial education, who might be compelled to gain still more intimate knowledge of conditions before pronouncing the final terms of a school program.

On the other hand, if it is desired to examine into the need for general education or social welfare work, the investigation should give

at least primary indications on this side; for instance, if the industry presents need for but little skill or technical knowledge but presents fair returns in the upper grades, to which advancement can be made thru experience; if the conditions of work as far as health and growth are concerned are satisfactory, and if beginners are entered at fourteen years of age—at the working-stage—it is probable that the extension of general education will be liable to be of important benefit to the workers. Conditions such as this might point to the general part-time school, giving instruction in general subjects, as the most desirable provision.

Furthermore, such an investigation might reveal conditions where little skill or technical knowledge is required; where the opportunity for advancement to fair wages is present but where large numbers of young workers are employed at long hours at such a narrow range of operations in connection with automatic machinery that the daily routine is monotonous and deadening in its effect. Further study of such cases might, in some instances, point to the provision of physically and socially recreative experiences as the greatest benefit that could be conferred upon such workers.

The lines of analysis presented in this paper would not answer all questions. They would not answer directly the question, for instance, as to what should be done in a community where there are no industrial opportunities for boys and girls except short term, blind alley jobs—such a question as a matter of fact has not yet been answered satisfactorily—but that such a scheme of approach might do much to make the return from our industrial surveys more fruitful of results and more worth the money they cost is perhaps not too much to hope.

IT MUST BE URGED THAT WORK AND INDUSTRY ARE EN-
NOBLING, NOT DEGRADING. IT MUST BE MADE KNOWN THAT
ONLY THRU A KNOWLEDGE OF THE GENERAL PRINCIPLES OF
INDUSTRY AND THRU THE FINAL MASTERY IN SOME PARTICULAR
CHOSEN LINE OF INDUSTRY, CAN THE INDIVIDUAL SUC-
CEED COMMENDABLY DURING HIS LIFETIME.—William A.
McKeever.

THE THIRD NATIONAL CONFERENCE ON VOCATIONAL GUIDANCE.

JESSE B. DAVIS.

THE city of Grand Rapids, Michigan, entertained two notable conventions during the week beginning October the nineteenth.

On the Sunday morning preceding the meetings, many of the visiting delegates occupied pulpits of the leading churches of the city, speaking upon the general theme, "The Moral Aspect of Vocational Guidance and Training."

The third National Conference on Vocational Guidance was formally opened on Tuesday evening. The first speaker, Owen R. Lovejoy, secretary of the National Child-Labor Committee, delivered one of the most inspiring addresses of the convention. Speaking upon the larger social bearing of vocational guidance, he made a forceful appeal in behalf of the American workingman and his family, especially for his children who are under the stress of early employment at gainful occupations. He hailed the day when the exploiter of little children should be regarded as an international outlaw. Holding as an accepted fact, the statement that industry has no place for the child under sixteen years of age, he urged the guidance of the child into that education which should equip for a vocation and also for the refined pleasures of life.

Professor George H. Mead of the University of Chicago read a most scholarly paper on the "Economic Bearing of Vocational Guidance". He demanded the cooperation of educators, manufacturers, and workingmen in solving the problems of vocational education. He deprecated the social and economic waste thru which great sums are invested in impractical education.

THE GRAND RAPIDS WORK DEMONSTRATED.

On Wednesday morning the delegates assembled in the auditorium of the Central High School to witness a demonstration of the plan of vocational guidance thru education as carried out in the city of Grand Rapids under the supervision of the writer, in the position of principal of the high school and vocational director. The first hour was occupied

with an assembly program in charge of the students. The speaker of the school "House of Representatives" presided. One of the students, preparing for a musical career, led the large orchestra of forty-five instruments. The president of the Junior Association of Commerce explained the purpose of this boys' organization as a part of the vocational guidance movement. He told how, under the auspices of the Association of Commerce of the city, these boys have exceptional opportunities to secure able men to address them on vocational topics, to visit the industries and business houses, to assist the senior association in promoting civic and social reforms, and in many ways to receive an unusual training in practical citizenship. One of the senior girls explained the plan of student organization as worked out in the school for the purpose of developing social efficiency among the pupils. The last speaker represented the group of students known as the "Leadership Club", and explained the methods of giving opportunity for those who have the qualities of leadership to develop them by study and practice as leaders of student activities.

Following this program the delegates were directed to the classes in English Composition in which vocational themes were made the basis of work. These classes were conducted in the Junior High School beginning with the seventh grade and extending thru the twelfth grade in the Central High School. The themes and discussions led by the pupils followed an outline for each grade including vocational ambition, the value of education, the elements of character that make for success, vocational biography, the call of the world to service, choosing a vocation, preparing for a life work, vocational ethics, and social and civic ethics. The inspection of this work by the delegates aroused much interest in the scheme and many carried away suggestions to be applied to the work at home.

THE WEDNESDAY EVENING PROGRAM.

Meyer Bloomfield, director of the Boston Vocation Bureau, presided at the evening session and spoke of his recent investigation of vocational guidance in Europe. One of the interesting statements made was that in English cities a vast amount of machinery had been developed to tide over the transition from school to work, and that they were too much engulfed in this problem of placement to give sufficient thought to the causes which produce such a rush on the labor exchange. They content

themselves with seeing to it that all these children who are given places go to night school, and forget that "the only right time for children to be found in the night schools is in the daytime." Germany and Bavaria are openly working for a system of vocational counseling to combat the jobs that pay the most, but have the least future prospect, and to protect their excellent system of continuation schools. The social aspect of the problem is being recognized. Parents are taken into consultation, valuable information is gathered that parents, children, teachers, and employes may be mutually benefited. Mr. Bloomfield appealed strongly for a wider use of the medical inspector, urging that he may do more than prevent epidemics—that he may develop into a vocational specialist so necessary in the whole scheme of vocational guidance.

Dr. Leonard P. Ayres, of the Russell Sage Foundation, spoke on both the Tuesday and Wednesday evening programs. In the first address on "Some Recent Investigations of the Foundation", he presented statistics which were intensely interesting to the workers in the field of vocational guidance. By means of graphic charts, Dr. Ayres displayed the results of the investigations of vocations, showing that while there are 9000 different ways in which Americans gain their livelihood, there are only twenty-one "constant occupations". The proportion of men in various occupations to the population was shown to be an almost constant factor. The startling fact was impressed upon the educators present that one-half of the children in the public schools who have reached the compulsory education age, are below the sixth grade. A study of the fathers showed that vocational guidance must have a broader outlook than the local industrial opportunity, and a study of industries proved that we have the right to demand an answer to the question, "What have you to offer to the employe?" Upon the subject of "Psychological Tests in Vocational Guidance", Dr. Ayres stated that the tests were of two kinds. The first, and the one in which the most had been done, was in the field of selecting persons for certain positions. The second kind of tests was in the field of selecting vocations for persons. Very little has been accomplished in this direction, altho some very interesting experimenting is now going on.

Mrs. Helen T. Wooley, director of the child-labor division of the Cincinnati public schools, told of the work in Ohio. Explaining the working of the labor laws in that state, she showed how the results had affected the number of pupils leaving school on working permits. By placing the authority in the hands of this bureau in Cincinnati the laws

were more rigidly enforced and fewer children were leaving school each year. She also gave a very interesting account of the industrial investigations and psychological experiments that were being conducted under her direction.

The need for professional training for vocational counseling was discussed by Professor Frederick G. Bonser of Teachers' College, Columbia University. Among the requirements for counseling, he mentioned information, experience, personality, capacity for constructive research, a knowledge of people, tact, decision, and an abundance of human sympathy.

A PERMANENT ORGANIZATION PERFECTED.

The first purpose for calling this conference was to carry out the plan proposed in New York City at the previous meeting that a permanent National organization be perfected. The committee appointed in New York made its report, a constitution was adopted for one year, and officers were elected as follows: President—Professor Frank M. Leavitt, University of Chicago, Chicago, Ill.; Vice President—Miss Alice P. Barrows, The Vocational Education Survey, New York, N. Y.; Secretary—Principal Jesse B. Davis, Vocational Director, Grand Rapids, Mich.; Treasurer—Mr. James S. Hiatt, 1015 Witherspoon Bldg., Philadelphia, Pa. The following were elected directors: Mr. Meyer Bloomfield, Director Vocation Bureau, Boston, Mass.; Miss M. Edith Campbell, Director Schmidlapp Bureau, Cincinnati, Ohio; Mr. O. W. Burroughs, Vocational Director Public Schools, Pittsburgh, Pa.; Mr. E. M. Robinson, International Y. M. C. A. Boys' Secretary, New York, N. Y.; Mr. George Platt Knox, Ass't Superintendent of Schools, St. Louis, Mo.

All persons interested in the problems of vocational guidance are eligible to membership for a fee of one dollar. Sustaining and organization memberships are five dollars. Application for membership may be made to the secretary.

EVERY BOY IS A NATURAL-BORN SOMETHING OR OTHER
WORTH WHILE. TO DISCOVER THIS PREDOMINANT TRAIT, TO
FOSTER AND INDULGE IT THRUOUT THE TRAINING COURSE,
AND FINALLY TO START THE YOUNG MAN UPON THE LIFE
WORK FOR WHICH THIS INSTINCTIVE DESIRE SO URGENTLY
CALLS—THIS IS A CONDENSED STATEMENT OF THE ENTIRE
PROBLEM OF THE VOCATIONAL GUIDANCE OF YOUTH.
—William A. McKeever.

ENGLISH COMPOSITION FOR INDUSTRIAL PUPILS
IN THE WILLIAM L. DICKINSON
HIGH SCHOOL OF JERSEY CITY.

FRANK E. MATHEWSON.

THE William L. Dickinson High School of Jersey City is a general high school having many varied and flexible courses planned to give either boys or girls that particular kind of training which shall meet their individual needs and thus prepare them for their future business of life. Courses that offer preparation for college, or technological institutes, commercial or industrial pursuits, are all given under one roof. All are equally important in the recognition given them toward securing the diploma of the high school. A boy who has just come from the foundry or machine-shop may be found in the same study room with pupils from a Greek or Latin class, and a girl from the trade sewing or cooking classes, studies alongside the girl who is preparing for Wellesley, Vassar, or Smith. It is the most democratic of schools, this school for "all the children of all the people". The academic work of the industrial courses commenced in February, 1912, but the equipment for the various kinds of industrial work was not completed until September, 1912, so that at present (September, 1913) the highest grade of work being done in the Technical and Industrial Department is that of the 10B grade, that of the second half of the second year.

The equipment and the courses of study in this department have been planned to meet adequately all the requirements necessary to give to pupils of high school age training in several branches of industrial work, as outlined in a course of study covering a period of four years, having for its ultimate aim and purpose the preparation of boys and girls for definite industrial occupations.

The requirements of such a course of instruction demand not only that teaching of the most practical kind be given in the various industrial subjects, together with drawing closely related to shopwork, but also that adequate attention be devoted to the necessary academic subjects, including English, mathematics and science, in order that all the training of the pupil may be thoroly comprehensive, covering all fundamental principles and practice involved in the different trades for which the school offers preparation. Suitable instruction in industrial courses can



COSTUME DESIGN. MODELING A DRESS ON THE FIGURE.

be based only on a thoro knowledge and appreciation of the methods and operations employed in the different trades as well as the theoretical applications of scientific principles. To fulfill the aim and accomplish the purpose of the industrial course, it has been necessary to make



CLASS IN COSTUME DESIGN. MODELING A SHIRT-WAIST ON THE FIGURE.

certain revisions in the character of instruction given in the academic courses in the school.

Much of this revision of academic work is yet in the experimental stage. We have our share of the general uncertainty as to the exact ground such courses should cover, and to how great an extent they should



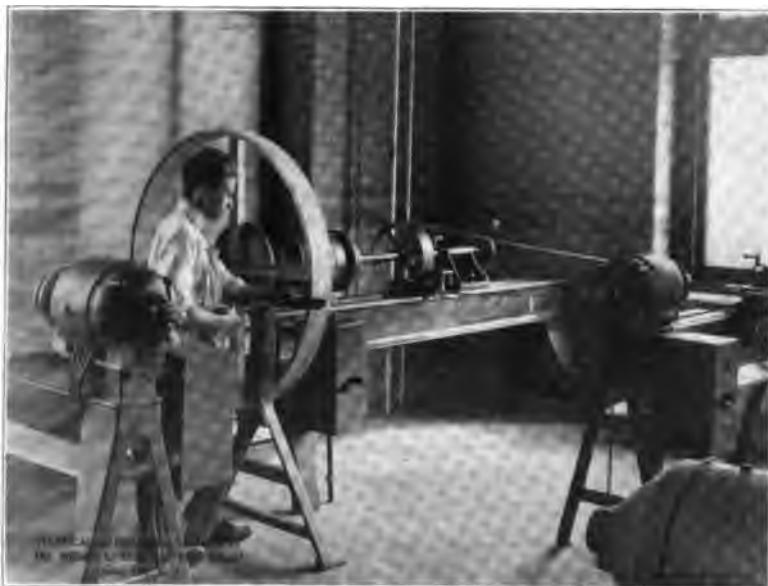
THE DINING-ROOM TABLE: 1. BUILDING THE RIM OF THE TABLE.

differ from parallel courses given academic pupils. There has been considerable discussion regarding the teaching of English composition for industrial pupils and several methods have been tried, with some success and some failure, and our teachers are beginning to appreciate and understand more fully just what the nature of such training should be.

At first the instruction does not differ materially from that given in classes in composition for academic students. We require the same general foundation for work in composition, careful drill in spelling, punctuation, grammar, and in elementary rhetoric. The pupil is trained to arrange his thoughts in an orderly plan, and to express them in simple, clean-cut English. After this, however, the method begins to differ from that of the academic classes. This difference is due to the special subject-matter of the courses for the industrial pupil and to the methods peculiar to the expression of such material.

The industrial pupil is greatly interested in his special field of work, and likes to talk and write about it. He likes to tell what things are, and how they are made, and of his part in their making.

He needs to know the methods by which things are described and how processes are detailed. His work in composition narrows down to a



THE DINING-ROOM TABLE: 2. TURNING THE RIM OF THE TABLE.

type having special form; it is explanation, and it demands such form as will make the expression logical and clear. Our teachers make this logical clearness a fundamental requirement in this work in composition. First, the pupil must learn to make a plan for his theme. Much time is occupied in studying plans. At first a simple plan is arranged and later the plan becomes much more detailed. When striving for completeness of plan the work is not satisfactory until the directions are full and accurate. The main object is to discover plans that are likely to be needed in the special work of both boys and girls in the industrial courses, those that will fulfill the later requirements of classroom or work shop.

The accompanying compositions are not presented as models of their kind. They are typical of work done by pupils of these grades. No doubt they have defects enough, but they illustrate the effort that is being

made in this direction and it is the hope that these experiments will finally lead toward successful work in this particular study. The photographs were made at the time that the work described in the compositions was done in the shops.

A GIRL'S PROBLEM IN INDUSTRIAL DRAWING.

By HELEN BROWNTRIGG, Grade 10A.

The first year girls in the Industrial Course of the William L. Dickinson High School, Jersey City, have been learning how to design dresses.

They first drew a front view, a side view, and a three-quarter front view of a plain dress form, using the Greek proportions of the human figure as a basis. The purpose in drawing these figures was to acquaint the class with relative proportions and relationships in the dress.

They then drew defective figures and showed how to correct the faults of the individual by changing the lines of the dress. They learned that people with drooping shoulders look short waisted, but that the short waisted effect may be overcome by raising the line over the shoulder. A short waisted figure may be made to appear longer waisted by lowering the waist line or by using a narrow belt. Long waisted persons may be made to appear shorter waisted by raising the waist line or by using a wide belt. "V" shaped belts make the waist look smaller than round ones do. Vertical lines appear to increase the apparent height of a person while horizontal lines appear to decrease this height. Large round yokes make the shoulders seem broad, small yokes either round or square make them seem narrower. Stout people should avoid lines which flare out from the body, as such lines accentuate stoutness.

The class was then taught that well designed dresses follow the general lines of the body. They should suggest the curves of the bust, of the waist, and of the hip. They should be easy and not too tight. The student next studied fashions of various periods and compared them with the present fashions, both in their good and bad phases. In studying the fashions of 1860 they found that the tight waist distorted the natural figure, and that the lower part of the body looked shapeless on account of extremely full skirts which did not suggest the body beneath. In the fashions of 1890 they found the waist a little larger and the skirts a little narrower. The best fashions of 1913 approach the ideal figure, suggesting the curves of the body without restricting its move-

ments. Some of the fashions, such as the hobble skirts and the extremely tight skirts, do prevent easy movement. These are bad.

After learning the correct proportions, what constitutes grace, and how to remedy lines that have no grace, they were taught where the constructive seam lines belong in a simple shirt waist and skirt. They made



THE DINING-ROOM TABLE: 3. VENEERING THE RIM OF THE TABLE.

a tissue paper dress consisting of skirt and waist, for a small model figure, and found in making this, that the shoulder seams of a waist should be a little to the back of the shoulder ridge and parallel to it, also that the under arm seam should be directly under the shoulder seam. The seams of the skirt should drop at right angles to the waist line. They learned how to locate the collar line and to give it a good curve, also where the inside seam of a sleeve belongs. They found that the warp threads should run lengthwise, the woof threads crosswise, and that there was a difference in the hang and the fit of a garment. A garment may fit very well but hang badly. This modeling in paper of a shirt waist suit on the little figure was followed by the modeling of a dress following a design in a fashion magazine. This was to give freedom in the modeling on the figure. The girls were then prepared to

design their own dresses on the small figure. This they do later when they design their second dress. Their first design is done in the form of a drawing.

Each girl of the class designed a dress for herself, beginning with a plain underlay figure according to her own proportions. On this figure



THE DINING-ROOM TABLE: 4. SAWING OUT THE TOP OF THE TABLE.

she first designed the plain dress and on this she placed the trimming which the class had previously discussed as to its appropriateness and beauty. While doing this she kept in mind her individual figure and its needs. After finishing the front view in this manner, each pupil drew a back view about one-third the size of the front view. Next she printed a description of the design, the material, and the trimming. The designs were sent to the sewing room where the class drafted their patterns and began the making of their dresses. The class were very glad to follow such a well planned course as it was a great help to them.

THE DINING-ROOM TABLE.

By JOHN B. HASHAGEN, Grade 9B.

The dining-room table we made is of the mission style of dining

table and is made of selected quartered oak. It is to be used in the domestic science department of our high school. The table consists of the rim, legs, top, and crosspieces.

The rim of this table is built of white pine wood cut into segments. This rim is 50" in diameter, and is built of seven layers of pine about



THE DINING-ROOM TABLE: 5. SANDPAPERING AND FINISHING.

$\frac{3}{4}$ " thick and 1" wide laid one on top of another and glued together. Then the rim was turned round and true in the lathe. It was then veneered with quartered oak.

The legs are about 3" square and are each made of two pieces of quartered oak glued together. The legs taper slightly from the top. They have a bottom mortise for the bottom crosspieces and another mortise 1" from the top of the leg for the upper crosspieces under the top. They are also cut in at the top to allow for the rim.

The top, which is detachable, is made of beautiful, selected grain, quartered oak. It consists of 8 boards carefully jointed and glued together, and is 52" in diameter. Small dowel-pins are put between the boards to give strength to the glued joints. Another top 66" in diameter is to be made, and is now under the course of construction. This top is

to be made up of three sections because of its weight, for a solid top of this size would be too heavy for girls to lift. Each top is fastened on to the table by means of small dowel pins on each post.

The crosspieces extend from one post to the one directly opposite. These crosspieces have a tenon on the end and fit into the mortise in the



THE DINING-ROOM TABLE: 6. THE FINISHED TABLE.

post thus forming a mortise-and-tenon joint. The bottom crosspieces have a curve in them. At the crossing of the two crosspieces a lap-joint is formed.

The top crosspieces are not of any particular value except that they keep the legs in the correct position.

The table was then stained to match the woodwork of the dining-room, a color often seen on mission furniture. After applying two coats of stain, two coats of woodfiller were also put on. It was then rubbed with wax until it had a nice lustre.

THE MAKING OF A TYPEWRITER TABLE.

By HENRY LUHRMANN, Grade 9B.

The sixty-five typewriter tables which we are making are wooden tables about 25" high, 30" long, and 20" wide. They are not as big



MORTISING LEGS OF TYPE-WRITER TABLES.

as an ordinary table or desk, but are large enough for students to sit at comfortably and move their arms freely.

They are made of chestnut wood carefully sawed and planed to prevent great warpage when they get a little old. The parts of the tables are the legs, side rails, end rails, short stretchers, long stretchers, and top.

When the pieces of wood needed for the table come up from the mill



MAKING TYPE-WRITER TABLES.

room they are only roughly sawed. The legs and rails are run over the jointer which planes a working face and edge on them. After this is done the opposite face and edge is planed until they are up to measurements required. The legs are also tapered, which is also done on the jointer. A line is drawn $3\frac{1}{4}$ " down from the top and at the bottom they are gaged to $1\frac{9}{16}$ " square. Then the planing is started by placing the line right over the knives of the jointer and by cutting clear down to the bottom until the leg is $1\frac{9}{16}$ " square at the bottom.

After the legs and rails are planed they are measured to length and knife lines are squared around them. They are either sawed off by hand or by the band-saw. The shoulders on the rails are laid out and sawed almost to size, leaving waste to be trimmed off with the chisel. When the top is laid out it is sawed to size on the band-saw. In sawing by hand always run the saw slow and be sure to split the knife lines.

Mortising is the next process taken up. Mortises are cut into the legs for the rails to fit in, making it stronger and steadier. Each leg has three mortises and the short bottom stretchers each have one. The top mortise on the legs is laid out $\frac{1}{2}$ " down from the top, the mortise itself being $2\frac{1}{4}$ " long and $\frac{1}{2}$ " wide. The bottom mortises are laid out $16\frac{1}{2}$ " down from the top, $\frac{1}{2}$ " wide, and $1\frac{1}{2}$ " long, being located in the center of the leg. The mortise on the stretcher is $1\frac{1}{2}$ " long, $\frac{1}{2}$ " wide, and a little off to one side of the center of the piece. All mortising is done on the mortising machine.

Chiseling is the next process taken up. After the legs are mortised, a chisel is taken and the mortises are cleaned out. The shoulders are trimmed with the chisel making them smooth and straight. The ends of the tenons are beveled with the chisel also. In chiseling a thin cut must be taken.

After all these processes are taken up the table is complete. The next process is finishing. Finishing includes gluing, sandpapering, clamping, staining, and waxing. The table is glued together, wiping off the glue that runs out with a wet rag. Then pieces are put on the sides to prevent marring the table, and the clamps are put on.

When gluing and clamping is done, the whole table is sandpapered because the glue fills the pores making the surface rough. In sandpapering the block must be run with the grain and not crosswise.

The stain is then put on and dried. When it is dry the wax is put on and rubbed very hard so that it sinks into the pores. Then a soft rag is used for polishing and the finishing of the table is completed.

THE SEVENTH ANNUAL CONVENTION OF THE
NATIONAL SOCIETY FOR THE PROMOTION
OF INDUSTRIAL EDUCATION.

WILLIAM T. BAWDEN.

THE seventh annual convention of the Society was held at Grand Rapids, Michigan, October 23-25, 1913. The Grand Rapids Committee on Arrangements for Conventions, the Association of Commerce, the Board of Education, the Women's Clubs, and other local agencies united forces to provide a most hospitable reception for the visiting delegates, and also to arouse interest in the convention on the part of the community itself to a pitch that has not been equaled in any other city in which the Society has held a meeting. The public schools were closed on Thursday and Friday in order that Grand Rapids teachers might reap the advantages of the discussion of topics of vital concern to them, and they were present at the sessions in large numbers. The Grand Rapids churches offered their pulpits for the consideration of social and educational questions, and on the Sunday preceding the convention there were delivered addresses, morning and evening, by prominent speakers from all parts of the country.

This convention was notable in several respects, but at least two stand out: first, there was one entire session devoted to a consideration of the kinds of vocational training that should be provided for women and girls; and second, it was the occasion of the distribution of three important bulletins, to be mentioned hereafter,

VOCATIONAL TRAINING FOR WOMEN AND GIRLS.

Two dominant notes characterized the program of the Friday afternoon session; the first was the importance of the home and the need of specific training for its management, and the other was the dignity of labor and the training of girls and women for efficiency in the industrial world. The chairman was Mrs. William F. McKnight, former president of the Ladies' Literary Club of Grand Rapids.

The first address of the afternoon was given by Miss Ida M. Tarbell, associate editor of the "American Magazine", on the topic, "What Industrial Training Should We Give the Average Girl?" As treated by Miss Tarbell the topic might have been "The Business of

Being a Housekeeper", as it discussed the entire field of housekeeping and homemaking in its relation to the commercial, industrial, economic, hygienic, educational, moral, and ethical departments of life. Housekeeping was presented as a big, vital, progressive thing requiring as much skill in the administration of its affairs as a manufacturing plant or a business enterprise. The following abstract will give some idea of the points brought out:

It is hardly necessary to quote figures to prove that the chief occupation of girls and women is, or shall be, what we call "housekeeping." Moreover, it is going to be housekeeping on small means since the average income of a family in this United States is less than \$500 a year! Out of the nearly forty-five million young and old women in the United States, there are, as a matter of fact, only about seven million over 10 years of age who are working all or a part of the time in what the United States census calls "gainful occupations." If you analyze these seven millions, you will find that only about 20 per cent of them (a million and a half) are in shops and factories. By far the largest proportion of these women engaged in any one occupation are in what the census calls "domestic service," that is, about 40 per cent of our seven million working women are helping other women keep house.

There is another point about these seven million women that should be kept in mind—their working life—that is, the period for which they stay at trades or professions or in service—is far less than that of men. The actual working life of a woman is probably less than five years. This means that the greater number of these seven million women, after three to five years' work, marry and go to housekeeping. Now, what have we? Why, simply the fact that an overwhelming majority of our average girls and women are going to do house-keeping.

On this basis, what kind of industrial training should the average girl get? I have no hesitation in saying with all the emphasis of which I am capable, that it should be a training in the domestic industries.

There are several reasons why I feel so strongly on this subject. The first is the girl herself. Consider what happens when an unskilled girl marries. She is undertaking a many-sided and difficult business upon which the health and happiness of a social unit—a family—depends. She is an unskilled laborer. How can we expect anything but a certain contempt for the duties of the household when we have in no way given her her training for them?

But there is another side to this, and that is the wastefulness of it. No woman can buy wisely if she has never been trained in the principles of selection, substitution, cooperation; if she knows nothing of prices, that is, if it has never been suggested to her that the household income has got to be used with the same kind of intelligence, care, knowledge, that her husband uses funds in his business.

There are other sides to this matter. Things are respected in this world largely as we are taught to respect them. These things which are not considered

important enough to give time and thought to are naturally regarded as unimportant and menial. The domestic industries are in contempt among many women. This has gone so far that, as we all know, a social stigma is attached to domestic service. An intelligent system of scientific training would unquestionably help to break down this contempt.

This training would certainly help break down the notion that the woman who runs a house is not "industrially independent," as we say. It would help establish her where she belongs as a partner, equally useful in the firm to the wage-earner; that is, it would settle what all intelligent working people have long recognized—that the prosperity of the family depends as much on the handling of the wage as upon the regularity with which it is earned by the man. This is so thoroly recognized that the steady workman looks on the pay envelope as belonging to his wife. Indeed, it is frequently he who may be said to be the one who is industrially dependent!

There is nothing in this scheme of giving training in domestic industries to all girls which need interfere with training for special shop, factory or office work.

A society like this can do no greater service to women, in my judgment, than to throw all its influence to dignifying and elevating the domestic industries.

"The Place of Homemaking in Industrial Education for Girls", was discussed by Mrs. Eva White, agent for Vocational Education, Massachusetts State Board of Education, who said:

Back of our industrial workers must be properly functioning homes, and our increased growth of prosperity will depend on the extent to which our educational system becomes *diversified* so as to meet the demands of the home and industry, and on the extent to which it is *individualized* so as to train special talents to the point of highest efficiency. That point of view which considers industrial training *only* in regard to the working world is blocked, and those who, thru the enthusiastic support of the home, neglect the fact that the ultimate homemaker is in thousands of cases a wage earner too are equally short of gaging the problem that lies before those interested in the industrial training of women for life.

Once we catch the vision of what it will mean to the health and general well being of our people, when the school system of our country is so flexible that it is always ready to meet a given need, everything else will come.

We hope to reach the time when a large proportion of the time of both pupil and teacher will be spent in the home and not in the classroom. As in the trade school we do not consider our training complete unless students have been tested under actual shop—commercial shop—conditions, so in our homemaking schools we believe that no model cottage or suite of rooms can furnish quite the same experience as can the girl's own home where she would take the full responsibility of getting supper continuously for a month, perhaps, having previously been practiced in each process involved in the preparation of a supper according to the well known project method.

Industrial education for women must concern itself with the training of our women and girls in the occupations in which they are earning wages. At present we have only included in our system of education a fringe of the industries in which women are employed. Back of the working world and conditioning its efficiency is the Home. Altho thousands of women are engaged in work outside the home, it is shown by statistics that the majority assume the responsibility of home management at from 3 to 5 years after they enter upon their wage earning occupation. The home is at the foundation of our civilization, therefore training for homemaking should be included in our scheme of vocational training for women.

Miss Cleo Murtland, recently appointed Assistant Secretary of the National Society, presented a report on "What the National Society for the Promotion of Industrial Education is Planning To Do for the Vocational Training of Girls and Women". This report consisted of a very comprehensive treatment of plans for women's work in the preparation for self-supporting occupation in industry and in home.

It is the intention of the committee on woman's work to include the following plans: First, experimental classes, in part-time work, in vocational education in the garment trades; second, study of problems of industrial education for girls and women, and publication of results in bulletins; third, furthering local interests and assisting local authorities in organizing work for girls and women.

The success depends upon the cooperation given to the committee by all who are concerned administratively, or as teachers, in the industrial training of girls and women. The committee needs also the cooperation and interest of all women. Public opinion must also be created in order that social justice may be attained.

This session was the largest in point of attendance in the history of the Society. The auditorium of the Fountain Street Baptist Church was filled to overflowing. After the completion of Miss Tarbell's address the aisles were cleared in compliance with the fire law restrictions, and the overflow was taken care of in the lecture room, where the other addresses were repeated.

THE SHORT UNIT COURSE.

The first of the three Bulletins to be distributed at this convention is entitled, "The Short Unit Course for Evening Trade Extension and Part-Time Trade Extension Schools", by Wesley A. O'Leary, in charge of the evening teachers' training class for trade workers, Pratt Institute, Brooklyn, in collaboration with Secretary Prosser. This is a pamphlet

of 116 pages, issued as Bulletin No. 17, consisting of three parts: I, Organization and Administration of the Short Unit Course; II, List of Courses; III, Analysis of Courses.

The Bulletin was made the basis of the discussion at the Friday morning session on the topic "How Can the Evening School Best Meet the Needs of the Wage Worker". The idea of the short unit course is by no means a recent discovery, as is indicated by the rather imposing list of teachers and directors upon whom the authors were able to draw in the compilation of this report. Nevertheless, the report is one of the most significant contributions of the last year or two, in its analysis of the problems of the evening school and the adaptation of means to ends. Recognition of the value of Mr. O'Leary's study was swift and unmistakable, for the preliminary edition of the bulletin prepared for distribution at Grand Rapids was entirely exhausted before the convention had adjourned. Massachusetts and New Jersey have made arrangements with the publishers and the Society for special editions to be distributed from the offices of the state departments of public instruction; at the time of this writing negotiations are under way with other offices to the same end; and the Society itself was compelled to order an extra edition to supply the demand.

Limitations of space prevent a discussion of the short unit course at this time. The bulletin will speak for itself.

THE TRAINING AND CERTIFICATION OF TEACHERS.

Probably the most important event of the convention was the presentation on Saturday morning of the preliminary report of the "Committee on the Selection and Training of Teachers for State Aided Industrial Schools for Boys and Men". The report was presented by the chairman, A. Lincoln Filene, Boston, Mass., in the form of an 86-page bulletin. The lateness of the hour permitted only a brief presentation, and the importance of the matter under consideration was not fully appreciated by all of those present. However, the committee had been able to hold several sessions at which opportunity was afforded for full discussion, and provision has been made for further discussion and revision before the recommendations are put in final form. The following features of the report attract attention:

The sole object of certification is to insure a wise selection of teachers for the service of the state. The present practice of selecting teachers by means of the written examination does not adequately measure the qualifications which

vocational schools are demanding of their teachers. Methods involving more practical tests must be devised to supplement the written examination. Such tests should include credentials of various kinds as to trade ability and technical knowledge by personal interviews and practical demonstrations. Examinations should be in the hands of the state working in close cooperation with the local community. Certificates should be issued by the state and should be valid for one year, to be renewed only when the teacher is able to demonstrate his ability to teach his chosen subject efficiently.

The power of certification should lie with the state board of educational control as a part of its responsibility in the supervision of state aided schools. The work of examination and certification should be conducted by the special committee to whom the control of vocational schools is committed. Such examinations require entirely new machinery or radical modifications of present machinery.

TEACHERS MUST BE TRAINED BY NEW METHODS.

There is an increasing demand for vocational teachers. Existing institutions do not adequately train teachers for industrial work. Vocational teachers must have experience in the trades they teach. Colleges and normal schools cannot give adequate trade training. Trade experience must be obtained by working in the trade before entering the training school. To give training for vocational teaching new schemes are necessary.

Special evening training classes designed to deal with the problems of the industrial school and the application of the principles of teaching to such a school, limited in their membership to selected men in the trade and directed by men experienced in industrial school work give promise of being the best source of immediate supply.

The intermediate technical school is one source to which we may look for teachers. Such schools should establish adequate training courses designed to train the student who has trade experience in the art of teaching his trade. Where normal schools attempt to train vocational teachers special departments should be established for the purpose. Tradesmen will not forego earning power to take such training. As an aid to this work scholarships should be granted by the state. Training classes in the various industrial and trade schools maintained by the state and taught by a traveling instructor especially equipped for the work is a feasible plan. In every case, training in teaching and trade contact should continue after the teacher gains employment, thru special training classes, and renewal of certificates to teach in state aided schools should depend in part upon participation in such training.

CHAMBERS OF COMMERCE AND VOCATIONAL EDUCATION.

The third of the three Bulletins to be distributed at this convention was entitled "What Chambers of Commerce Can Do for Vocational Education", by Alvin E. Dodd; member of the Committee on Education, and vice-president of the "Under Forty" Governing Board, Boston

Chamber of Commerce, and director of the North Bennet Street Industrial School, Boston, in collaboration with Secretary Prosser.

The following is an outline of the definite suggestions presented in a 54-page pamphlet:

The following steps may be taken to further *local* effort in promoting vocational education:

(1) Establish a Committee on Vocational Education as a part of the Chamber of Commerce organization; (2) Arrange meetings to stir up local interest in vocational education; (3) Preparation and publication of statements showing in detail the facilities for industrial and commercial education in the locality; (4) Initiation and support of investigations as to the need of vocational schools; (5) Aid in establishing advisory committees of business men; (6) Aid in providing scholarships or rewards for further industrial or commercial work and experience outside of the schools; (7) Establish a placement bureau for vocational school boys; (8) Interest young people in vocational efficiency thru the formation of a younger division of the chamber of commerce.

The following ways are suggested of furthering *state* effort in promoting vocational education: (1) Keep track of proposed legislation; (2) Conference with various organizations that may or should be interested in vocational education; (3) Obtain the establishment of a commission to study problems of vocational education as applied to the state; (4) Urge the passage of laws making possible a state system of vocational education.

The Bulletin also contains a summary of what chambers of commerce have done and are now doing for vocational education in different parts of the United States in the direction of influencing legislation, raising funds, supporting educational surveys, etc. The Friday evening session of the convention was designated "Chamber of Commerce Night", and the problems here suggested form the basis of the discussion.

"UNIT" VERSUS "DUAL" CONTROL.

One part of this program took the form of a discussion of the question of "Unit Versus Dual Control of Vocational Education", by Dean Louis E. Reber, Extension Division, University of Wisconsin, Madison, and Professor John Dewey, Columbia University, New York. Speaking in favor of the organization of vocational schools under separate boards of control, the so-called "dual" system, Dean Reber said:

One of the most frequent arguments against a supplementary system of schools is that the plan tends toward class distinctions. This position is in a measure controverted by the fact that certain courses of vocational instruction are bringing out rich and poor alike, thus uniting them on a common basis of interest. In the more advanced classes the college graduate and the artisan are frequently seen side by side, and in home economics girls and women from all ranks of life work together. Our vocational teachers do not anticipate the creation of class distinction. One superintendent when questioned on this point said, "I can see no reason for it, when the pupils of one school may at any time become members of the other."

It is possible, tho it seems improbable, that conditions in other states call for a different method in the matter of control. The advocates of the dual system are advocates of democracy in education; the democracy that dignifies labor; the democracy that recognizes that wealth is not necessarily a determining factor as to whether or not a boy or girl shall go to college; the democracy that opens a new world to those who have not the taste or the capacity for academic education.

Professor Dewey in discussing the Wisconsin plan pointed out that it is not a good example of the dual system of control, inasmuch as the hearty cooperation actually secured, if it does not make for unified control at least mitigates the evils of such separation as exists. He showed, further, that the question at issue is clearly one of method of procedure and not of end.

GRADUAL VERSUS IMMEDIATE DEVELOPMENT.

The second part of the Thursday afternoon program consisted of a discussion of the question as to the advisability of the gradual or immediate introduction of schemes for compulsory part-time education, by Warren E. Hicks, Deputy Superintendent for Industrial Education, Madison, Wis., and Arthur D. Dean, Chief of Division of Vocational Schools, Albany, N. Y. Mr. Hicks said, in part:

The "natural immobility" of humanity resists the plea of the pulpit, the influence of schools, the advice of the press, and the threat of the law. A state wishing to "budge" this "natural immobility" needs to command all the means of fostering that are available. These means consist of efficient part-time schools, state aid, and compulsory attendance laws. The state has needed all these means in the past and the necessity for them is urgent now.

There seems to be a notion in the mind of the visitor to Wisconsin that it has a state-wide compulsory law. On the contrary, permits are issued to children in the state on the usual conditions, at 14 years of age. The educational requirement necessary is the completion of the fifth grade or its equivalent, or seven years in a regular or private school. The provision in the permit that is issued

to attend continuation classes five hours per week is not enforceable unless the city has established the continuation school in the regular manner. These schools cannot be established unless the regular Board of Education appoints an Industrial Board.

State aid is provided for the apprenticeship school also. It is part-time education, compulsory, state aided, with option on the part of the employer and the minor before, but binding upon both, after the contract is executed.

One-half of the funds expended by the state and cities maintain the instruction for the permit and apprenticeship schools, while the other half of the funds are devoted to part-time education of workers who voluntarily attend evening classes, and persons between the ages of 14 and 16 who voluntarily attend the all-day industrial or commercial schools.

Mr. Dean took the ground that the immediate introduction of a state-wide plan is impracticable, and said:

I hold that it is practically impossible to establish and maintain effective compulsory part-time education applicable to all communities and to all industries without first trying out the plan under local option, state experimentation with various plans, and a readjustment of present methods of manufacturing. The employers will be expected to cooperate. The work done by the young people must be so arranged that they can be dismissed from the factory for a few hours a week without damage to the method of production. A body of teachers must be developed competent to deal with continuation school instruction in such a way that pupils will learn thru a study of real things and not thru a line of abstract thinking. An immediate state-wide law would involve in any fair sized state the matter of taking care of from 50,000 to 150,000 additional children.

Even a superficial investigation shows that many occupations do not lead to an acceptable trade and do not require an apprenticeship system. To revive a state-wide apprenticeship system accompanied by state-wide compulsory continuation education is to pass a law of 1913 based upon a plan of production of 1825.

If the bookwork in a continuation school is to deal with training for citizenship, irrespective of the methods of shop production or a technical supplementation of shop practice, then I see a large and legitimate field of educational activity for the youth between fourteen and sixteen.

I, for one, am in hearty favor of allowing the saturated brain of the adolescent youth, out of school into a world of activity just so long as schools neglect the problem of giving youth a taste of something real. Then I would draw him back to school for five hours a week for further general education which he would not and could not appreciate when in the all day school of the non-occupational order.

A strong public appeal was made by the Society in its program of Thursday evening, held under the auspices of the Grand Rapids Association of Commerce. Governor W. N. Ferris of Michigan spoke on "What Vocational Education and Vocational Guidance Means to

Michigan". Honorable William C. Redfield, Secretary of Commerce, and President of the National Society, spoke on "What Vocational Education and Vocational Guidance Mean to the Future of the Country". "The Social Bearing of Industrial Education of Women" was the subject of an address by Miss Laura Drake Gill, President of the Sewanee, Tennessee, College for Women. A large and enthusiastic audience manifested its interest in no uncertain way.

HOW TO STUDY AN INDUSTRY.

One of the most valuable papers of the entire convention was that read by Professor Charles R. Richards, director, Cooper Union, New York, on "How an Industry Should Be Studied from the Standpoint of Vocational Education". This paper appears in full elsewhere in this number.

Professor Frank M. Leavitt, University of Chicago, discussed the question: "How Should an Industry Be Studied from the Standpoint of Vocational Guidance?" This paper may be briefly summarized as follows:

It is possible to think of vocational education as having for its purpose the salvation of our industrial system and the maintenance of our commercial supremacy, but vocational guidance must have as its major purpose the salvation of the lives and the ideals of the nation's workers. It is well within the range of possibility that vocational guidance, when carried out in a comprehensive, purposeful and scientific way, may force upon industry many modifications which will be good not only for the children, but equally so for the industry.

In studying an industry from the point of view of vocational guidance, we should try to ascertain what the possibilities are for reorganizing its methods of employing minors. Whatever may be of importance in studying an industry from the point of view of vocational education, from the standpoint of vocational guidance the prime factor will always be the child, whose rights will be placed far above those of property or the dictates of educational tradition.

ELECTION OF OFFICERS.

It has not been possible in this report to do more than make a selection from the many good things afforded by this convention. Many of the leaders pronounced this the best meeting that has yet been held since the movement for industrial education got under way. It was not so impressive in the number of sessions and speakers as some of the previous meetings, but there can be no doubt of its significance as an indication of the vitality and influence of the new movement in education.

At the business session on Saturday the officers were elected as follows: president, William C. Redfield, Washington, D. C.; vice-president, George C. Warner; treasurer, Frederick B. Pratt; members of the Board of Managers: J. W. Lieb, Jr., V. Everett Macey, Frank Duffy, James P. Monroe, C. H. Winslow, A. Lincoln Filene, Charles R. Richards, Miss M. Edith Campbell, Miss Virginia Potter, Miss S. N. Breckenridge, Howell Cheney.

THE MODERN DEMAND FOR VOCATIONALIZING THE CURRICULUM OWES ITS FORCE MAINLY TO THE PROVED FACT THAT A LARGER PROPORTION OF PUPILS DROP OUT OF SCHOOL THAN CAN POSSIBLY BE ACCOUNTED FOR ON THE GROUND OF ECONOMIC PRESSURE. THE AVERAGE BOY LEAVES SCHOOL BECAUSE STUDY OF THE BOOKISH SORT HAS CEASED TO MAKE ANY APPEAL TO HIM. THE CURRENT CRITICISM TENDS TO REGARD THIS AVERAGE BOY AS A DISTINCT SOCIAL LOSS, AND SEEKS TO DEVISE WAYS AND MEANS TO GIVE HIM MORE THAN HE HAS, NOT MERELY FOR HIS INDIVIDUAL BENEFIT BUT FOR THE LARGER BENEFIT OF SOCIETY.—Commissioner P. P. Claxton.

THE DEVELOPMENT OF PART-TIME EDUCATION FOR APPRENTICES IN CHICAGO.¹

WILLIAM M. ROBERTS.

ABOUT six hundred apprentices employed in four different trades are attending the Chicago public schools and are studying subjects which have a direct bearing upon the work of their trades. Two hundred seventy-five are carpenters' apprentices, one hundred sixty plumbers' helpers, one hundred forty electrical workers' apprentices, and thirty machinists' apprentices. The carpenters attend every school day for three months in the year and the others attend one-half day of each week thruout the school year, from eight o'clock in the morning until half-past eleven. Arrangements have been made to organize classes for sheet metalworkers, but the classes are not yet under way.

This paper will contain an account of the origin of these several classes, with the methods used to interest employers and employes in the subject of apprentice training. For the most part it is an account of what has been done in Chicago thru organized labor, working together with organized employers, to solve the problem of apprentice training.

THE CARPENTERS' SCHOOL.

The first apprentice school to be established in Chicago was the school for carpenters, which was begun in January, 1901. The following is taken from the report of the superintendent of schools for 1904:

In January, 1901, in response to a request from Mr. Joseph Downey, the board of education began to make provision for the education of the apprentices of the masons' and bricklayers' associations. Six or seven apprentices attended the English High and Manual Training School for three months and studied arithmetic, English, architectural drawing, and woodworking. The next year sixty students were enrolled, and rooms in the Dore School were used for the work. In scholarship, the pupils included those who had studied one or two years in the high schools, down to those who read English with difficulty. The

¹ A paper read at the seventh annual convention of the National Society for the Promotion of Industrial Education, Grand Rapids, Michigan, October, 1913.

highest class studied English, plane geometry, algebra, and drawing; the second, English, algebra, arithmetic, and drawing; the lowest class, English, arithmetic, and drawing.

The sixty apprentices of the second year referred to in this report included carpenters' apprentices, and thereafter it was attended by more carpenters than bricklayers.

The union carpenters of the city and the employers' association, known as the Carpenters and Builders Association, now known as the Carpenter Contractors Association, after a conference with the superintendent of schools, came to an agreement in December, 1901, in the matter of apprentice instruction. The agreement provided that the apprentices should be "laid off" during January, February, and March, but that their regular apprentice wages should be paid, and they should be required to attend school for the entire three months. The classes were placed in charge of the principal of the technical high school, known then as the Manual Training High School; but as there was not room in the school building, some vacant rooms in the nearest elementary school building were used. This method of conducting the school continued until 1912, but seldom was the school held in the same place or under the same management for two successive years. The fact that the school lasted but three months in the year made it necessary to "pick up" teachers who could be secured for that short time or to transfer teachers temporarily from another school. For lack of sufficient space in any one building, the classes were held in two or three places in some of these years. In the meantime, the number of apprentices increased from sixty to two hundred fifty.

In spite of many handicaps the school did work of a kind which met with the approval of both men and employers. About 1906 the bricklayers ceased to attend. In 1911 an attempt was made to introduce shop practice as a part of the curriculum by having the boys go to the nearest technical high school for two hours twice each week after the close of the high school day. The kinds of work attempted in the shop were simple joinery, house-framing, and stair-building. For want of funds the shopwork was discontinued about the middle of the session. In January, 1912, these apprentice classes were placed in two of the technical high schools; the boys of the first two years in the Crane Technical High School, and the boys of the third and fourth years in the Lane Technical High School. Two periods were added to the high school day, and the vacant class periods of the high school teachers were so adjusted that the drawing and shopwork could be done by

experienced and capable men acquainted with carpentry construction. The course provided for two hours of architectural drawing, one hour of related mathematics, one hour of history and civics, one hour of English, and two of shopwork.

The shopwork for the first two years is mainly joinery, with practical lectures on the care and sharpening of tools. Some of the shopwork is necessarily exercise work, but most of it is upon such projects as lockers and tables, and tool boxes for the boys. For the third year the shopwork consists of house-framing, with special reference to roof-framing. The fourth year shopwork is upon stair building. In practice there is cooperation between the teachers in working out the several phases of the problem; the design in detail is developed in the drawing room, the mathematics of the problem including work on the steel square in the mathematics class, and the project is then worked out in the shop. The purpose is not so much to make skilled workmen, for the time is not sufficient for that, but to furnish practical illustrations of standard methods of construction.

Attendance upon the classes is made compulsory by both the employers and the unions, working thru their joint arbitration board. The following notice sent to apprentices shows how attendance is enforced:

CHICAGO, DEC. 9th, 1912.

To Carpenter Apprentices:—

In accordance with the apprentice rules, you are required to attend day school during January, February, and March of 1913, and the following directions are given for your guidance in this matter:

Apprentice day schools will open Monday, January 6th, at the Crane Technical High School, Oakley Avenue and Van Buren Street, and the Lane Technical High School, Division and Sedgwick Streets. Apprentices of the first and second years will attend the Crane School; those of the third and fourth years will attend the Lane School.

You will be required to report January 6th at the school to which you are directed promptly at 9 A. M., and thereafter at such time as required by the principal of the school.

Attendance cards will be issued to the apprentices at the end of each week, and your contractor is instructed to deduct from your pay one-fifth of the week's wage for each day of unexcused absence; the cards to be returned to the teacher at the beginning of the week, after having been signed by your contractor.

You will be required to conform in every respect to the rules governing the schools which you attend.

No exception will be made from the above directions without a permit from the Joint Arbitration Board.

JOINT ARBITRATION BOARD.

CHAS. THEO. GREEN, President.

(Signed) J. W. QUAYLE, Secretary.

In enforcing the terms of this notice, usually two days are added to the apprentice term for each day's absence from school. Working cards are withheld in special cases when absence without excuse has continued, or when misconduct has continued after fair warning and admonition. Gross misconduct, continued disregard of regulations, or failure to do the work prescribed has been punished by expulsion from the Union and loss of employment.

With the exception of the carpenters' apprentice school, the evening schools were the only public schools which attempted to meet the problem of training of industrial apprentices in Chicago previous to 1912.

For some years previous to 1910, the demand for vocational subjects in the evening schools had been steadily increasing, but in that year a special effort was made to interest both the employers and their employes in evening school work. Visits were made to some of the larger manufacturing establishments, and the subject of technical training for men in the skilled trades was taken up with the management. The result was a great increase in the number taking technical courses. Just before the Christmas holiday vacation the names of all pupils taking technical courses were secured and classified by names of employers, and letters were sent to about one hundred of the larger firms, transmitting a list of their employes who were taking these courses. Again near the close of the term in March, 1911, the names of all pupils then in school were secured and classified by names of employers, and again letters were sent out to employers giving the names of their employes who had attended the evening school classes, with the name of the school and the subject pursued by the employe. If four or more persons employed by one firm were attending school the firm received a letter. In all, 272 letters were sent, transmitting about 4,800 names. The replies received in January and in March showed a great interest on the part of employers. One of these replies is quoted as showing the spirit with which business men generally met the efforts of their workers to add to their knowledge or skill:

JANUARY 3, 1911.

MRS. ELLA FLAGG YOUNG,
Superintendent of Schools,
Chicago, Ill.

Dear Madam:—

We wish to thank you for your recent communication with enclosure of list of names of sixteen of our factory employes who were registered in the evening schools during the term which closed December 15.

We are much interested and gratified to receive this information. This Company has the utmost sympathy with efforts of its employees for self-betterment.

We take pleasure in transmitting this list of names to the superintendent of our factory, with instructions to look out for these young men, and give them such opportunities of improving their conditions, industrially, as the circumstances in each case can warrant.

If there is anything which this Company could do further, to reciprocate the courtesy shown in the transmission of this information, concerning our employees, we assure you we should be glad to do so.

Yours truly,

UNION SPECIAL MACHINE COMPANY,

(Signed)

A. C. ABEL.

This campaign in the interest of evening school instruction evidently aroused considerable interest in the whole subject of vocational training, for afterwards when the superintendent of schools was ready to suggest part-time day school work for certain classes of workers, the people who had been most active in regard to the evening school work were the first to take up the day school proposition. An example of this is seen in the Crane Company.

MACHINISTS' APPRENTICES.

During the evening school term of 1910 and 1911, the superintendent of employment for the Crane Company became interested in evening school instruction, and did much to encourage the younger employees of the company to take regular courses at the evening schools. About sixty in all attended. This was done also during the term of 1911-1912, but in the spring of 1912, after several conferences with the assistant superintendent of schools in charge, the company officials decided to send all of the apprentices in the machine-shop to the nearest technical high school for one-half day of each week. They began attendance about the first day of May, 1912. Twenty boys in all were sent, and the class has been maintained at that number ever since. The boys report at the school at eight o'clock in the morning, and are dismissed at twelve, having four school periods. Two are spent in machine drawing, one on mathematics and elementary mechanics, and one on English. The instruction is given by the regular teachers of these subjects in the high school. At the beginning of September, 1913, an instructor was employed who had been in charge of the apprentice instruction in a large manufacturing plant, who was a practical machinist, as well as draftsman, and a university graduate. Another group of apprentices from

other shops began attendance about the middle of September, 1913, and there are now two groups of machine shop apprentices under his care.

ORGANIZED LABOR INTERESTED.

It was soon discovered in the course of the evening school campaign that while employers of large numbers of skilled workmen were easily interested in the subject of apprentice training, the proprietors of the smaller shops were apparently indifferent. In many lines of business, such small shops are associated together for trade regulation purposes, or for dealing with organized labor, and an attempt was made to interest both organized employers and employes in the subject of definite courses for apprentices in the evening schools.

The first group of workmen to take up the subject was the electrical workers. Early in September, 1910, a committee of one of the electrical workers' unions (Local 134 of the International Brotherhood of Electrical Workers), met with the assistant superintendent in charge of evening schools in a series of conferences which resulted in the adoption by the Union on October 7th of that year of a regulation which required apprentices affiliated with the Union to take some regular school instruction in electricity during the time of their apprenticeship. No particular schools were prescribed in the order, but the action was intended to apply to any kind of evening school. Previous to the passage of this order, the number enrolled in the evening school classes in electricity was about two hundred, but during the term just following, the attendance reached four hundred. The officers of the Union also discussed with its members the question of further study by the members themselves, and many journeymen entered the classes.

This method of securing school attendance on the part of apprentices was not entirely successful. Some of the boys attended and some did not. The younger boys did not attend in any great number.

DAY SCHOOL CLASSES FOR ELECTRICAL WORKERS.

When this situation became apparent, after two evening school terms had passed, the union officials, after several meetings with the assistant superintendent in charge, and with the whole body of apprentices in meetings called for the purpose, and after conferences with the officers of the employers' association, known as the Electrical Contractors'

Association, finally secured the passage of an order by the union requiring attendance of the apprentices at day schools for one half day of each week. This action was taken in September, 1912. By agreement with the employers, the apprentices were to be paid for the time spent in school at their regular rate of pay, provided this amount did not exceed one dollar. In cases where the wages exceeded one dollar for the half-day, the employer was required to pay only one dollar; in some instances, however, they were paid the full wages. Following is the agreement ratified by the Union and by the Electrical Contractors' Association:

It shall be compulsory upon apprentices to attend school at least one-half day each week during the school term, and the employer will pay apprentice for such time up to \$1.00 per week. The Union shall furnish the apprentices with necessary text-books free of charge and shall also provide each apprentice with a card which must be presented to the instructor at the school and signed by him each week to show that apprentice was in attendance, and this must be shown by the apprentice to the foreman or employer on request.

The apprentices who began school attendance, 140 in all, were organized into four groups, corresponding roughly to the years of their apprenticeship, and began regular attendance at school early in October, 1912. One class attends the Wendell Phillips High School, which is not a technical high school, but which had just acquired an electrical laboratory equipment suitable for the purpose. These are the younger boys or the beginners in the work, and the course for them is made elementary to lay the foundation for advanced work in the following years. Even in this elementary class, however, the work is based upon questions which arise in the industry; the laboratory instruments are commercial instruments, and the tests made and experiments tried are such as are practiced in the industry in solving the same problems.

The other three groups—two groups of second-year apprentices, and one group made up of third and fourth-year boys—attend the Crane High School, where the laboratory equipment is more extensive, and where the work offered is of a higher grade. Here again the laboratory experiments, as well as all discussions, are based upon the problems arising in the industry.

The electrical workers are classified in the trade as A, B, and C men. The A men work on what is known as construction work—that is, on lighting or power installation. Men employed in maintenance work on light and power installation are also classed as A men. The C men

are those working for the telephone companies in installation and maintenance work. The B men are mostly sub-station and power house men. It is difficult to plan a course which will fit into the day's work of each apprentice, when classes are made up of members of these several groups. When this was discussed with the representatives of the workmen and with the employers, the solution suggested was that all should have the same course in the beginning. Since all the B and C men aim to get into the A class, a course which fits the needs of the A men will fit the needs of the B and C men also.

The telephone companies objected to payment for the time spent in school, since a general course in electricity does not apply specially to telephone work. The Chicago Telephone Company supports a school for the instruction of men in the maintenance department, and since this school entails considerable expense, the company is not willing to pay an additional amount for instruction which does not apply. We hope to meet this objection soon by organizing classes in telephone work for the C men.

On invitation of the superintendent of schools, the Electrical Contractors' Association and the Union each appointed one man to represent them upon a committee to confer with the superintendent of schools in matters relating to the course of instruction and conduct of the school. They have visited the classes frequently, and from time to time have offered suggestions. A visit to the classes will convince anyone that the boys themselves are beginning to catch the spirit of the movement. Boys who appeared dull and apathetic in the first few weeks now show keen interest; and their trade, instead of being a mere job, is beginning to acquire, in their eyes, the dignity of a profession.

THE PLUMBERS' SCHOOL.

In March, 1913, the superintendent of schools invited a representative of the Journeymen Plumbers' Association and the president of the Chicago Master Plumbers' Association to a conference on the subject of a plumbing course in the day technical high schools. During the progress of that conference the suggestion was made that a beginning might be made with the apprentices already in the trade, and an arrangement similar to that of the electrical workers was suggested. Within a month after that conference the employers and employes came to an agreement which provided for the attendance of the plumbers' helpers,

as the apprentices are called, at school for one-half day of each week thruout the school year. The following notice to the members of the Master Plumbers' Association gives the lines of the agreement:

CHICAGO, ILL., May 1st, 1913.

Dear Sir:—

In connection with the system of vocational training, which was inaugurated by the Board of Education in the Public Schools April 7th, we desire to notify you that an agreement has been reached between our Association and the Chicago Journeymen Plumbers' Association whereby the Registered Apprentices *now learning the trade* are to spend one-half day of each week at the Lane Technical High School, Division and Sedgwick Streets, and there to receive a theoretical course that will enable them to better understand the principles of the plumbing trades.

It is understood that the employer will pay the boy for the time thus lost in attending school.

Classes will be formed and instruction given according to the period of their apprenticeship.

The entire project, which, we believe, is for the ultimate betterment of the plumbing business, has the approval and endorsement of our Association, as well as the Journeymen Plumbers' Association, and we expect that it will be accorded the encouragement it deserves from the individual members of this Association.

Yours very truly,

CHICAGO MASTER PLUMBERS' ASSOCIATION

CHAS. A. DRIER, President,

C. F. TAFFE, Secretary.

On the first school week of April, 1913, 160 of the plumbers' helpers began attendance at the Lane Technical High School. They are divided into five groups according to the length of time they have been in the trade, and each group attends for one-half day. The hours are from eight o'clock to 11:30. The school day consists of four school periods; two are spent on plumbing design, one on elementary mathematics and science related to the trade, and one on English. The employers, as well as the employes, are greatly interested in the progress of the classes. At a meeting of a committee of the employers, to which the principal of the school, the district superintendent in charge, and the teachers of the class were invited, it was agreed that the master plumbers would be asked to contribute material for a fairly complete outfit of plumbing fixtures to be installed at the school building. The purpose of the installation is to furnish types of standard fixtures for practical instruction. At the same meeting, following some criticism of the textbook in use, it was agreed that one of the members of the committee, a practical plumber, should revise the book to correspond to the building code in

force in Chicago. Up to this time no shopwork has been provided, but "at a conference September 28th, held between committees on vocational training, representing their respective Associations, it was decided to have a member of the Master Plumbers' Association and a member of the Journeyman Plumbers' Association appear together before the plumbing class once a week and give the boys practical talks on plumbing, also teach them from charts the principles of plumbing, including talks on siphonage and other questions. It is also the purpose of the joint committee to pay periodical visits to the school and learn what progress the students are making."¹

The latest trade to join in this movement is the sheet metal trade. Some time in the spring of 1913, conferences were held with officials of the sheet metal contractors and officials of the unions separately on the subject of part-time work for the apprentices in that industry. In July, 1913, the superintendent again called attention to the subject by sending to all sheet metal contractors detailed information concerning the classes for apprentices in other trades which had been organized in the schools. In September an apprentice agreement was consummated, which provided for a part-time school clause in all apprentice indentures. The following notice to the sheet metal contractors was sent out on September 19th to members of the Association:

CHICAGO, Sept. 19th, 1913.

SHEET METAL CONTRACTORS OF CHICAGO.

Dear Sir:—

You received a communication from the superintendent of the Chicago public schools, under date of July 20th, giving a synopsis of the work that is being done to advance the welfare of apprentices by giving them a technical, as well as a practical education in their chosen trade.

This project has the hearty approval of employers constituting the Sheet Metal Contractors' Association of Chicago, as well as of the Sheet Metalworkers' Union Number 73, and if you have an apprentice in your employ, we respectfully request that you extend to him the privilege of attending this school. If this does not meet with your approval, will you kindly notify the undersigned, stating objections?

We might add that in the future, indentures for apprentices will be granted only upon the condition that this privilege be given the apprentice.

Yours very truly,

JOINT ARBITRATION BOARD, SHEET METAL
CONTRACTORS & SHEET METAL-
WORKERS' UNION NO. 73.

E. D. MARKHAM, Sec'y.

¹ Reported in the Plumbers' Trade Journal.

The classes for sheet metalworkers have not yet been organized.

The employers and employes in two other trades, each having about 300 registered apprentices in Chicago, are trying to get together on apprentice agreements which will provide for one half day a week at school.

ADVISORY COMMITTEES.

The superintendent of schools invited the Carpenter Contractors and the Journeymen Carpenters Associations each to name one person to act as a member of a committee to advise the superintendent in matters relating to the course of instruction and conduct of the school. The same was done in the case of the plumbers, electrical workers, and sheet metalworkers. These committees, together with the joint arbitrating boards in each case, have been of great assistance, particularly in bringing about regular attendance and good conduct.

IN THIS DAY OF THE UPRISING OF THE PEOPLE IN AN EXTREME EFFORT TO TAKE OVER THEIR OWN INTERESTS INTO THEIR OWN HANDS, WE NOTE WITH PLEASURE THE FACT THAT THE BEST AND MOST PROMISING STATESMEN, LEGISLATORS, ATTORNEYS, TEACHERS, MINISTERS, AND SO ON DOWN THE LINE—THAT THE BEST AND MOST PROMISING OF THESE ARE TO BE FOUND AMONG THOSE FOURSQUARE YOUNG MEN WHO HAVE BEEN TAUGHT FROM CHILDHOOD TO SOIL THEIR HANDS IN THE PERFORMANCE OF PLAIN, HEAVY WORK, TO LIVE IN AN ATMOSPHERE OF WHOLESOME INDUSTRY AND SOCIABILITY, AND TO TOUCH HEART TO HEART AND LIFE TO LIFE WITH THE RANKS OF THAT GREAT THROB WHOSE EARLY EXPERIENCE WAS TO EARN THEIR BREAD BY THE SWEAT OF THE BROW.—
W. A. McKeever.

HOW MAY A COMMUNITY MAKE A STUDY OF ITS SCHOOLS AS OPPORTUNITIES FOR VOCATIONAL EDUCATION?

MRS. BRYANT B. GLENNY.

II.

I want to mention briefly some of the results of our costly experiment. We had learned by experience that a real demand existed for this kind of information, that practical workers in vocational training were without a method guiding them to the opportunities already in existence. We found also that these practical persons as principals of schools, and directors of educational institutions, wanted that information concerning schools, tested, verified and presented in classified form.

Another result of our study was that we were led, thru experience, to recognize the need of setting standards for these typical opportunities. We were told over and again that the fixing of definite standards in the form of desirable aims and principles to be realized for the schools was the next and much needed contribution to vocational education.

To catalog, classify, list, and describe the schools had been to us like forcing a path thru the mist. In reality, we were laying stress upon the necessity for higher standards, which means subordination to the same controlling principles and aims rather than mere mechanical uniformity. We had only made a beginning in training public opinion to want and demand the best schools. Our chart series emphasized the higher requirement. It seemed to be our duty to attempt thru further cooperation, to increase and make public more knowledge about the schools. We stood committed to initiate an effort to prevent the exploitation of youth, which we found in open and unchallenged practice. The results of chart publicity revealed clearly this community need.

Numerous victims of unregulated, private vocational schools, operated for profit, were cited by social workers. School principals and other educators testified to this enormous waste of life and resources. We soon detected a rather large group of what we term "doubtful schools".

These doubtful schools were noted carefully, recorded, and reserved for further investigation.

This exploitation evil seemed to us so great that we appointed a special committee on "Ways and Means" to try to remedy the situation.

It was two years ago that our committee held this conference with a group of special educational leaders. The members of the committee were:

The State Commissioner of Education of Massachusetts; The Director of the Vocation Bureau; a representative of the Education Committee of the Chamber of Commerce; the President of our League; and the President of the Girls' Trade Education League.

We wanted to ascertain how far we might go in preparing a bill for the legislature, proposing some form of control for private schools operated for profit. We had the conviction that a sort of state control might be devised, that would materially aid the attainment of higher ideals than prevailed.

There were two important results of that conference: One was that a further and more intensive study of commercial training was begun. The other was the recognition of an existing tendency towards some form of state control for such schools, this sentiment naturally following the regulation of various other profit schemes, such as moving picture shows, manicuring establishments, etc.

The members of that special committee agreed that the best and surest methods of ultimately accomplishing such state control and so conserve educational forces were:

First—To accumulate patiently and accurately facts concerning all private vocational schools, operated for profit.

Second—To trace by special investigation the truth concerning "doubtful schools".

Third—To give publicity on the charts only to such schools as were accredited by whatever standards were at our command.

Fourth—To win other organizations gradually to concerted action in framing and supporting such legislative measures as seemed best when the opportune time came.

Certain types of schools listed have yielded readily to the demand for higher standards. It is necessary to develop this process much further, however, and beyond the limited resources of any civic organ-

ization. To attempt to develop better standards for the schools we need th unlimited resources of college and university classrooms and laboratories.

SETTING STANDARDS.

I want to give examples of our simple attempts to find standards.

In Chart No. 1, for the choice of industrial schools, we followed the advice of leaders in industrial education, such men as Walter B. Russell, Director of the Franklin Union; and Arthur L. Williston, Director of Wentworth Institute and Foundation; and also leaders of Trade Unions.

For Chart No. 3, Commercial Schools, we consulted the Special Commercial Council, composed of the Boston public school teachers of commercial branches, as well as the directors of endowed schools, and business men and women. The whole study of commercial training, however, was so difficult, that we decided to list only public and endowed schools, leaving all private commercial schools for further investigation.

For Chart No. 4, we found uniformly high standards in the education of physically handicapped mentally normal children, and we refreshed ourselves by close cooperation with the devoted men and women directors of these institutions thruout the state of Massachusetts. Two years ago we made a strong appeal to the Child Helping Department of the Russell Sage Foundation, to aid the cause of guidance by financing a study of the vocational needs of physically handicapped children, who were especially trained in these splendid institutions to be partially or wholly self-supporting.

What is needed is a field worker who could do individual casework with children graduating from one or more schools for the physically handicapped—one who could help them find employment, and who would gather together all availing information on the subject and bring it continually to the attention of those interested in the physically handicapped, thus demonstrating the need for a permanent vocational guidance agent.

On Chart No. 5, for classification and standards of Settlement Opportunities, we used Mr. Wood's and Mr. Kennedy's Sage Foundation report on Settlements.

On Chart No. 6, the section of the Professional Chart on "Training Schools for Nurses", it was comparatively simple to gather together

the leaders of the nursing profession in Massachusetts. These trained, experienced women and certain hospital authorities met in office conference to classify the training schools. The classification of the American Association of Hospital Superintendents was adopted. Only such training schools for nurses as were affiliated with hospitals, having an average of at least thirty-five beds were selected. This classification eliminated at once all small training schools connected with private or inadequate hospitals.

We found that the New York State Board of Regents maintains the highest standard of requirements, covering the enrolment of applicants, for the training of nurses.

The Board publishes an accredited list of training schools, throughout the United States, conforming to this standard and offering at least two years of continuous training. Graduates of these accredited training schools are eligible for enrolment in the Federal Red Cross Service. This eligibility for enrolment in Government service supposedly constitutes the highest efficiency in that field. The U. S. Bureau of Education has recently published a monograph on the "Educational Status of Nursing", by Miss Adelaide Nutting, Director of the "Department of Nursing and Health", in Teachers' College. This work ought to help enormously to improve methods for the training of nurses and tend to eliminate unfit schools and to educate public opinion to connect the profession of nursing with the ideals of public health.

Another instance where this method was applicable. When constructing Chart No. 7, on Art Schools, we quoted our authority for the selecting of Massachusetts schools as follows: "The classification of the schools listed on this chart and the qualifications for scholarship in them are the same as those mentioned in the issue of 1912 of the American Art Annual—a standard publication affiliated with the American Federation of Arts." This American Federation of Arts is a Federal Organization, its Honorary President being the President of the United States.

Also for Chart No. 7 the choice of Music Schools is explained on the chart as follows: "The standards and qualifications used in listing music schools were suggested by a report on 'Music Education in the United States', by Prof. Arthur L. Manchester, issued under the auspices of the United States Bureau of Education." This is another important monograph tending to educate public opinion and improve music education.

This provision is an important step in the work of preparing rural teachers to give instruction in agriculture.

As an encouragement to the teaching of agriculture, and manual and domestic arts in rural or semi-rural schools a law was enacted providing state aid for consolidated schools equipped with two or more rooms and which include in their course of study industrial and vocational subjects. The amount of state aid varies with the number of rooms in the school, a two room school receiving \$250 toward equipment and \$200 annually, while a four room school receives \$500 toward equipment and \$750 annually. One of the requirements to be met before these consolidated schools are eligible for aid is that the teachers should hold certificates showing their qualifications to teach the special subjects, including agriculture.

The third law makes the teaching of elementary agriculture, domestic science and manual training mandatory in the public schools of Iowa after July 1, 1915. The state superintendent is to prescribe the extent of such instruction and after the date named these subjects must be included among those in which candidates for certificates for teaching in such positions as require the teaching of the special subjects are examined.

Thus this last law gives the state a little time in which to prepare teachers for their new duties. Even so, the state superintendent, A. M. Deyoe, speaks of the great difficulty experienced in securing competent teachers.

FROM THE MANUFACTURERS' STANDPOINT.

The National Association of Manufacturers at its eighteenth annual convention in Detroit this last year made the following declaration of views on vocational education. These statements deserve close study by leaders of the vocational education movement.

The National Association of Manufacturers, in convention assembled, expresses its judgment as follows concerning Vocational Education:

First. It is the purpose of Vocational Education to save, educationally, that 50 per cent of the children of the land who now leave school by the end of the sixth grade, undirected, unskilled, uninformed, and to train them and others of all ages in the essentials of successful and happy workers in their chosen occupations, in commerce, in manufacturing, in agriculture and in home making.

Second. It is essential that the teachers in Vocational Schools shall have had extended experience in actual employment in the occupations taught, to the end that the instruction be practical and meet actual conditions.

Third. It is equally necessary that state and local boards of control be established (either as new bodies or reorganizations of former bodies), consisting principally of employers and employes from the vocations, thereby assuring that the instruction given shall justify the confidence and hope of students, parents and the vocational interests whose cooperation is essential to proper outcome. Failure has marked every great attempt at Vocational Education not so directed.

The requirement that employers and employes be largely responsible for the conduct of the schools is not based upon an assumption of their general superiority, but only upon the clear knowledge that among such men are very many of as great patriotism, broad vision and creative ability as are elsewhere to be found, and because, *noblesse oblige*, they alone know the requirements of their callings. It is their duty and privilege to give to the public service their special training and experience—just as doctors of medicine must be upon health boards and engineers upon boards of public works.

Our system of common school education is exceedingly defective in important particulars, and behind that of the foremost countries of Continental Europe, because business men have not been upon state and local boards, or when on, have served only perfunctorily and not with the interest which they give to their personal affairs.

Fourth. The Continuation School is essential as the only method of teaching the millions who leave school before finishing the elementary courses. Trade schools are of value for relatively few students of especial promise and for training for the higher places in the vocations. They should be secondary to continuation schools, and draw their students principally from the most successful students in the continuation schools.



The Department of Superintendence of the National Educational Association will hold its annual meeting at Richmond, Virginia, February 23-28, 1914. Ben Blewett, superintendent of St. Louis schools, has prepared a program which will prove of interest to vocational school teachers as well as the superintendents. Wednesday morning will be devoted to a discussion of the distinction between vocational and cultural education with David Snedden, commissioner of education for Massachusetts, and W. C. Bagley, Professor of Education of the University of Illinois, as speakers. Wednesday afternoon the topics are part-time, continuation, shop, and trade schools, with the following speakers: R. J. Condon, superintendent of Cincinnati schools; H. P. Hughes, superintendent of schools, McComb, Mississippi; F. W. Thomas, supervisor of apprentices, Santa Fe Railway; and Lewis Gustafson, of the David Ranken Jr. School of Trades, St. Louis.

The devotion of an entire day's program to vocational education is indicative of the importance which that subject is assuming in the minds of the leading educators in this country.

FOREIGN NOTES

H. WILLIAMS SMITH.

The British Press is beginning to sit up and take notice of vocational education. Some of the scribes are even dropping into poetry about it. Here is the first verse of a poemlet in "The Evening News":

"If you're keen on education,
Let your small boy's occupation
Be selected by himself, or you'll regret it;
He has got a predilection,
I've no doubt, in some direction,
And it's nothing short of folly to upset it."

The other three verses are as good, or bad, as this. "The Daily News" in a leader deplores the prospects of the van-boy, who is, usually, one of those young urchins that help to make London streets merry and bright. The News says:—"Although some of the bigger firms and companies have done what they could to improve the conditions, it (the van-boy's occupation) remains, like caddying, one of the worst of the blind-alley employments". A Sunday newspaper, which circulates very extensively, especially in the North of England,—"The Sunday Chronicle"—maintains a regular department entitled "Careers for Sons and Daughters" under which caption an expert gives advice to parents and others on vocational openings for boys and girls. "The Daily Mirror"—one of the many papers owned by Lord Northcliffe—maintains its own troop of Sea Scouts, in which preference is given to applicants who are wishing to adopt a sea-faring life. The lads are taught navigation by Captain Mence, F. R. A. S., who is head of the largest nautical school in England. Cookery, steward's duties, sail-making, knotting and splicing, ambulance, signalling, and wireless telegraphy are all included in the sea scouts' training. Several of the largest steamship companies are keenly interested, and willing to take the lads into their service. The troop have their own boat on the Thames, and week-ends are spent in "a life on the ocean wave", or thereabouts, and practical instruction is given in seamanship. The troop is under the charge of a London clergymen.

The National Committee on Sea Training has issued an advanced syllabus of education in two parts: (1) suitable for boys qualifying

for the advanced class in the Royal Navy; (2) suitable for boys entering the mercantile marine from sea-training institutions, who are possessed of exceptional capacity and industry. Syllabus No. 1 deals with English; mechanical drawing, mathematics; mechanics; and geography. No. 2 deals with drawing; mathematics; elementary science; preliminary practical work; and theory of navigation. In glancing over these syllabuses the thought struck me, how lucky Columbus was that he did not have to learn all that much before he started to discover America. We speak of and take pride in our "rollicking Jack Tars": if they can still rollick after such courses of study they are indeed "boys of the bulldog breed". It is surprising how the call of the sea fetches British boys from the most unlikely localities. From the tame London suburb as from the remote Hebrides they hear the call and respond to it. They, mostly, have got the fibre, and one of these syllabuses will help to lick them into shape.

"The Minister for Children" is a term which may be applied to the head of the division of the Home Office which has just been formed to deal specially with questions relating to children. The new department, among other duties, will control street trading where juveniles are concerned; and will also deal with the difficult and highly important work of finding suitable situations for the children trained in reformatory and industrial schools, so that they may follow useful careers and be a credit to themselves and the nation.

The Board of Agriculture makes grants amounting to £25,500 per annum in aid of higher agricultural education in England and Wales. England and Wales possess fourteen agricultural colleges and agricultural departments of universities, which after a three or four years' course give the degree of B. S. in agriculture or the diploma of agriculture. All the above institutes have forms attached for practical and research work. Another direction in which agricultural education and research is being developed is in the supply of technical advice to farmers and the investigation of local problems. Special courses in forestry are provided at the Universities of Oxford and Cambridge and three other institutions. A practical School of Forestry, established in 1904 by the British Government is maintained in the Forest of Dean. It's but a wee bit of terra firma that our Board of Agriculture has to do with, but its work is, perhaps, more sound and thoro than that of any other

government department. In a poem which cannot easily be matched for its passionate affection for England, the dear old Bostonion Autocrat says:

"Hugged in the clinging billow's clasp,
From sea-weed fringe to mountain heather,
The British oak with rooted grasp
Her slender handful holds together."

And it is a fact that we grow something on that handful, and that we do not get quite all our wheat from Canada and all our pork from Chicago. It is a cheering fact to record also that, on the whole, farming as a vocation presents slowly brightening prospects here in the Homeland.

At an educational conference held in connection with the Gas Exhibition at Olympia, London, Sir Alfred Keogh, Rector of the Imperial College of Science, said "there never was a time more full of hope for higher scientific education in its practical aspects than the present. It was not enough for universities to become converted to new ideas; the industries must also become intimately associated with them, and must become parts of the machinery for higher education". Mr. C. Brereton, a London Inspector of Schools, declared that educationists could no longer be content to turn out a good scholastic article; they must follow it up, and see how it fared on the labor market, and be ready and willing to revise their methods.

At a Shrewsbury conference recently, Mr. Heford, H. M. I., for technical instruction, dealing with vocational training, said, "Only a few years ago it was not the thing to breathe the word 'vocation' in connection with education, and consequently the work done in the evening school was little more than a repetition of that done in the day school". Mr. Heford is one of several men who have been appointed to foster vocational education in England and Wales.

The Tenth International Congress on Commercial Education was held at Budapest from August 31 to September 5, after a three weeks' course of lectures on commerce organized by the International Society for the Promotion of Commerce Education. Vive la International Societies! They make for peace as well as prosperity.

In Bavaria, Baden, Wurtemberg, and Saxony, attendance at continuation classes is compulsory upon young employees for a certain

number of hours per week. In Prussian towns attendance may be made compulsory by local by-law for all young people engaged in industrial and commercial occupations. Hamburg has just passed a law for compulsory continued education which, under eight headings, deals with the situation very thoroly. It is felt in England that the tendency is an irresistible one towards similar compulsion. Compulsion has not a nice sound to Anglo-Saxon ears; but, after all, what do governments exist for besides compulsion, benevolent and otherwise?

A State School of Forestry was founded in France in 1824, and two years later was established at Nancy where its headquarters have remained ever since. Under the direct management of the school are 7,625 acres of forest. The complete equipment of the school consists of four forests, a nursery, a piscicultural experimental station, and an arboretum. The students visit forests in other parts of France, and thruout the whole course a certain amount of military instruction is given and a fairly strict discipline is maintained. Foreigners are admitted to the school and take the course of studies which consists of forestry and its applied sciences, forest surveying and forest law.

Tho the first travelling school for Rural Domestic Economy in France was founded only in December, 1905, at the present day thirty such schools exist, two others are to be opened shortly, and the formation of yet six others is under discussion. Many of them give short summer courses in training colleges of their districts. On the whole it may be said that the instruction is being appreciated by farmers and their families.

A significant advertisement appeared in "The Schoolmaster" of a master required for the Rhondda County School, Wales, to teach woodwork, metalwork, machine construction and drawing, and applied mechanics. "Practical experience in an engineering works as well as teaching ability essential." It is that "practical experience" which is a sign of the times, and a good sign too. Such an advertisement is a *rara avis* in a British newspaper, but there will be more and more such in the future.

REVIEWS

Opportunities for Vocational Training in Boston, the Women's Municipal League of Boston, 5½x8¼ inches; 300 pages; price \$1.25.

This book is the outgrowth of the work of the Women's Municipal League in surveying and charting the vocational opportunities in Boston as an aid in the vocational guidance work of the public schools and bureaus. So many requests for copies of the charts, and information as to how the statistics were obtained came in to the League that the publication of the information in book form was the easiest and most helpful answer.

Part one gives an alphabetical list of subjects taught in the vocational schools and classes of Boston; Part two gives classified information regarding schools; and Part three gives supplementary information of a very valuable nature. Maps are given showing the location of classified schools.

While the information itself is largely local in interest, the arrangement, the basis of classification, the character of the statistics, all are of the greatest interest to workers in vocational guidance everywhere as showing a practical method of procedure, and what may be accomplished by a city survey.

Dr. David Snedden says of the book in the Foreword that it "appears at an opportune time, when vocational guidance and preparation for vocation are coming to be regarded as essential features of the conservation of the best of our resources—namely, childhood and youth."

Vocations for Girls. By Mary A. Laselle and Katherine Wiley. Houghton Mifflin Company. 4¾x7¾ in.; pp. 139; price, \$0.85.

In "Vocations for Girls" we have available in handy book form much information that has been published heretofore in pamphlet form by various agencies. There are chapters covering the principal occupations open to girls and in addition, several helpful chapters about girls' work in general. The chapter on the successful girl is full of extremely helpful and important advice. In the appendix are found several pages of inspiring quotations about work. The work shows careful preparation, sympathetic insight, and a keen appreciation of the demands of the workaday world. It is written in a pleasant easy style which will make it as acceptable to younger readers as to older ones. It will be sure to find a definite place as a vocational guidance handbook and vocational school reader.

The American Girl in the Stockyards District by Louise Montgomery, University of Chicago Press; 6½x9 inches; 70 pages; illustrated.

This pamphlet is the second in the series of valuable studies prepared as a record of an investigation carried on under the direction of the board of the University of Chicago Settlement and the Chicago Alumnae Club of the University.

While the data presented will be chiefly valuable to those who are working out Chicago's educational problems, educators and social workers elsewhere will find the arrangement of material, the record of methods of securing the facts, and the conclusions reached, very helpful and stimulating. It is especially

commended as a community study to those interested in vocational training and guidance.

Industrial Arithmetic for Vocational Schools by Mary L. Gardner and Cleo Murtland; D. C. Heath and Company; 5x7 inches; 150 pages; price 50 cents.

This is a revised edition of a book first published in 1910. It is intended for use in vocational schools for girls only. It presupposes on the part of the pupils a knowledge of the fundamental processes in arithmetic and proceeds at once to problems directly connected with the trades.

These problems are grouped by trades and includes questions on millinery, sewing, factory sewing, and sample mounting and novelty work. In addition there are groups of problems on incomes, bills and receipts, textiles, and industrial and civic questions. In these groups is intensified the aim, apparent throughout the book, of awakening the girls' minds to the broader phases of their work, and to their social and civic relations. An example of this thought stimulating type of problem is the following from the "Incomes" group: "A skilled straw sewer working in a certain factory at \$20 a week for 46 weeks in the year was offered 125% more per week in another place. She found, however, that the second factory kept its employes only 12 weeks in the year. Which was the better position?"

This problem is a far cry from the "man rowing down the stream" type of problem still found so frequently in arithmetics for elementary schools. One feels that the book-makers and book-users would both gain much from a study of this industrial arithmetic. Its value to vocational schools is readily seen from an analysis of the contents.

—V. E. W.

RECEIVED.

The Vocationalist, February, 1913. The second issue of a magazine devoted to education in mechanic arts, agriculture and home-making edited by Joseph C. Park and published at the State Normal School, Oswego, N. S.

Bulletins issued by the Williamson Free School of Mechanical Trades, Williamson School P. O. Pa. These are valuable outlines of courses which give the reader an insight into the methods and scope of the work in this remarkably successful American trade school. Thirteen bulletins have been issued. The last one is on the scientific agricultural trade course. Number 12 is on the patternmakers' trade course, number 11 on the operating engineers' trade course, number 10 on the carpenters' trade course, number 8 on the machinists' course, and number 7 on the course in bricklaying.

Philippine School of Arts and Trades. Catalog for 1911-12. Bureau of Education, Manila, P. I.

The School of Household Industries in the Philippine Islands. Bulletin No. 45—1912, issued by the Bureau of Education, Manila, P. I.

Agricultural Education in Secondary Schools. Papers read at the second annual meeting of the American Association for the Advancement of Agricultural Teaching, held in Columbus, Ohio, November 14, 1911. Bulletin No. 6—1912, issued by the Bureau of Education, Washington, D. C.

Twelfth Annual Report of the Director of Education, Philippine Islands. This report tells a remarkable story of how 429,000 pupils are being educated to become efficient citizens. Bureau of Education, Manila, P. I.

Annual Report of the Department of Technical Education, Province of Nova Scotia. By Frederic H. Sexton, director of technical education. Published by the Department of Education, Halifax, N. S.

Report of the Dean of the Extension Division, University of Wisconsin. By Louis E. Reber, Bulletin No. 539, published by the University of Wisconsin, Madison, Wisconsin.

Report of the Thirtieth Annual Lake Mohonk Conference of Friends of the Indian and Other Dependent Peoples, Oct. 23-25, 1912, Henry S. Haskins, Secty., Mohonk Lake, N. Y.

Vocational Education: Legislation of 1910-1911. By C. A. Prosser. Reprint from American Political Science Review, November, 1912.

Industrial Education. Published by Teachers College, Columbia University, New York City, Price 30 cents. Contains "The School and Industrial Life", by James E. Russell, a paper first published in the Educational Review in December, 1909; and "Fundamental Values in Industrial Education", by Frederick G. Bonser, which is reprinted from Technical Education Bulletin No. 10, published by Teachers College.

State Aid to Vocational Education in Minnesota. Prepared by D. D. Mayne, principal of School of Agriculture, University Farm. Bulletin No. 29; published by the State Department of Public Instruction, St. Paul, Minn. A 50-page pamphlet giving the laws relating to the teaching of agriculture and industrial work, and illustrated reports of the state high schools.

Milwaukee County School of Agriculture and Domestic Economy. Wauwatosa, Wis., First Annual Catalog.

The Work of the Agricultural Colleges in Training Teachers of Agriculture for Secondary Schools. Circular 118 issued by the Office of Experiment Stations, Department of Agriculture, Washington, D. C. Issued Feb. 17, 1913.

Child Labor in Canneries. The Child Labor Bulletin for February. Price, 50 cents. 105 East 22d St., New York City.

Consular Reports on Continuation Schools in Prussia. Bulletin No. 9—1913, issued by the United States Bureau of Education, Washington, D. C.

Principles and Policies that Should Underlie State Legislation for a State System of Vocational Education. A tentative statement formulated at a meeting of a committee of the National Society for the Promotion of Industrial Education in Philadelphia in December and approved by the Board of Managers of the Society in February.

VOCATIONAL EDUCATION

MARCH, 1914

PREVOCATIONAL EDUCATION IN ENGLAND.

GEORGE THOMPSON.¹

WAKE UP! JOHN BULL!" Such was the pertinent message delivered by King George V, while still Prince of Wales, some ten years ago at a meeting held in the London Guildhall.

Whether this princely reminder was the cause of imparting new energy to John Bull's many and varied activities, or not, it is a fact, nevertheless, that he has during the last decade exhibited a greater desire than ever before to introduce progressive ideas to the business concerns of the nation. This go-a-head spirit looms large in all matters affecting the education of England's future manhood and womanhood, and after forty years of state-aided education for the democracy we are every day being informed by people in high places that radical changes are sorely needed in our educational aims and provision.

A real live movement is at present concerning itself with the question of providing industry and commerce with a more specialized form of human product than has hitherto been the practice, and it is pretty generally recognized that our schools can reasonably hope to manufacture the desired article without their relinquishing any of the ideals that have been held as essential in the past.

Up till a few years ago the primary schools of England and Wales were predominantly "book" schools, but of late, rapid progress has been made in the way of introducing to the schools a manipulative complexion, and manual training as a *method* has firmly established itself, with the result that the "learn by doing" policy is clearly evidenced by the curricula of schools controlled by all progressive education authorities.

¹ Headmaster, Trade Preparatory School, Toxteth Technical Institute, Liverpool, England.

There are in England and Wales 293 administrative school areas, and of these, 31 areas are still so satisfied with the somnambulistic state that they offer no instruction in domestic science subjects, while 73 have not sufficiently awakened to the importance of providing instruction in handicraft subjects of any kind whatever. Among the latter group of delinquents are, the royal and ancient borough of Doncaster with its important railway locomotive and carriage building industries, Hartlepool with its great shipbuilding yards; and towns of lesser importance still without "work" schools are, Beverley (Yorks.), Clitheroe (Lancs.), Lewes (Sussex), Aldershot (Hants.) and Berwick-on-Tweed.

The total number of children in attendance at day state-aided schools (England and Wales) in 1911-12, was:

Elementary schools (up to 14 yrs. of age) 6,075,024.

Secondary Schools (up to about 16 yrs. of age) 185,056.

Day Technical Schools (1910-11) 11,640.

Of the six millions attending elementary schools, 780,203 received instruction in one or the other special subject; of these 239,655 boys attended classes for handicraft; 327,632 girls took cookery; and 133,995 girls were taught laundry work; the remainder had instruction in housewifery, dairywork, or gardening.

The introduction of housecraft and handicraft subjects into the primary schools has undoubtedly enlightened the authorities as to the urgency of the need for courses of work with a more strictly vocational purpose, and is largely responsible for the existing movement towards a more vocational curriculum; but manual training as a school method will continue to advance and fulfil its high educational purpose, and thus bear out the arresting German school motto: "Train the eye and exercise the hand, then strong will be the will, and clear the understanding."

IMPORTANCE OF THE YEARS FOURTEEN TO SIXTEEN.

The saddest feature of our English primary school system is the almost universal desire on the part of parents to take their children from school at the earliest possible legal school-leaving age, which is 14 years, thus flooding the juvenile labor market with an imperfectly educated horde of boys and girls all modeled in the same mold and none possessed of a training that fits him or her for one particular vocation

before another. Furthermore, these juvenile nondescripts invariably are compelled to enter employment of an unedifying character, and those that eventually begin as apprentices in skilled trades at the usual age of 16 years are found to have deteriorated during the two years of casual labor. Any habits of study they may have acquired in their previous school life too often disappear altogether, and once lost these are not easily revived. Besides, both the children and their parents have grown accustomed to comparatively high wages, and will seldom reconcile themselves to the subsequent reduction which any sort of learnership to a trade necessarily involves. The boy and girl should be caught in the net of some skilled trade as he leaves school, otherwise it is not much use endeavoring to catch him at all.

These are the evils that the present day effort is endeavoring to remedy, and rapid progress towards a complete solution of the problem may be anticipated. Something substantial has already been accomplished in the shape of providing prevocational education by such schools as the newly established London Central Schools and Junior Technical Schools. These two types of schools will now be described, but it should be remembered that the Central School is designed to tackle a problem which is peculiarly metropolitan; while the Junior Technical School has to secure its footing and carve out a future among the infinite complexities that are inseparable from the industrial system as it exists today.

LONDON CENTRAL SCHOOLS.

These schools were inaugurated about three years ago, and the term "Central" is applied to them because of their acting as receptacles for children from the elementary schools in their immediate neighborhood. There are about 40 such schools in all, and about one-half of them have a commercial bias, and nearly one-half an industrial bias, while a few have a dual bias. Boys and girls are admitted between the ages of 11 and 12 years, thus enabling the four-years' course to be completed by the time they are 15 or 16 years of age, when they will proceed into business houses and workshops as apprentices and learners. So as to assist the children of poor parents who would otherwise be unable to allow their children to complete the course, 500 bursaries of £10 value each are provided; but the pupils are not eligible for these before the school-leaving age—14 years—is reached.

The schools with a commercial bias provide, in addition to the

ordinary public elementary school subjects, 4 hours instruction weekly in modern languages thruout the course; 2 hours instruction weekly in laboratory science in the first and second years, and for the third and fourth years if found desirable; 3 hours instruction weekly in handicraft for boys during the first and second years, and a similar period in domestic economy for girls during the first three years; during the third and fourth years shorthand and bookkeeping are taken as optional subjects for 1½ and 1 hour weekly respectively.

The schools possessing an industrial bias offer from 10 to 12 hours instruction weekly in practical work, which for boys consists of science, drawing, clay-modeling, woodwork, and metalwork, and in special cases, leatherwork, and printing; while the girls receive instruction in science, domestic economy, drawing, and needlework.

The eyes of the nation are fixed on this bold and highly interesting experiment, but owing to its recent introduction it is impossible to speak of its real educational value; but it is confidently anticipated that success will crown the effort, and one of the most vital defects in London's great educational concern forever removed. One of the outstanding features of the scheme appears to be that the workers of tomorrow are captured at the earliest possible feasible age, and by being brought face to face with some of the more easy problems of commerce and industry, they will exhibit a desire to prolong the school period, thus assisting to diminish that awful wastage that has been and is taking place between the time of leaving school at 14 years, and entering upon productive industry at 16 years.

JUNIOR TECHNICAL SCHOOLS.

Schools of this class are of quite modern date, and at the present time 53 such schools receive grants from the English Board of Education; but Ireland must share with England the credit for introducing them to these Islands some ten years ago when they were established at Belfast, Queenstown, Kilkenny, Portadown, and a few other towns. Very successful schools of this character are now to be found in Liverpool, Bootle, Leeds, Preston, Leicester, and other cities, and it is anticipated that a great increase in their number will take place now that the Board of Education has this year increased the annual state grant from £3 to £5 per pupil.

These schools are distinctly prevocational in character and have

been known by various names, among which are, Trade Preparatory, Preparatory Trades, and Pre-Apprenticeship; but in future they will rank as Junior Technical Schools and be organized in accordance with the regulations for such schools issued by the Board of Education last July.

The Junior Technical School at the Toxteth Technical Institute, Liverpool, well illustrates this new type of school, and its aim, organization, and courses of work will now be discussed in their main characteristics.

The sixth session is now in progress and there are at present 120 boys in the school, 80 of these being first year, and the remainder second year pupils. The school is controlled by a committee of the local education authority, and altho the scope and character of the courses provided are designed to meet local requirements, the regulations of the Board of Education are strictly adhered to, and the school is periodically inspected by officials of the Board upon whose reports the treasury grant is annually assessed. This grant, as previously indicated, is £5 per pupil for efficient schools, but where great expense is incurred thru the purchasing of expensive apparatus for special classes of work, the grant may be increased to £7.

The minimum age for entry is 13 years, and the pupils consist altogether of elementary school boys who have arrived at some fairly definite conclusion that a manipulative career is their desirable objective. The parents of all admitted pupils are required to sign an undertaking that the course shall be completed and their sons placed as apprentices to trades for which the school provides a training. Should any of the pupils during their first year in the school prove to be obviously unfitted for craftsmanship they are advised to withdraw and select a vocation more suited to their natural attainments. It is in this respect that these schools serve a most valuable purpose, for by the end of their course it is quite possible to assort the pupils and definitely assign boys to particular trades, thus preventing further tragedies of attempting to fit square prisms into circular orifices. The fee charged for the course is £2/5/- per annum and this sum includes the cost of all books, materials, and apparatus required by the pupils.

There are 15 first year, and 15 second year free scholarships, and second year scholarship holders are entitled to a small maintenance allowance, granted by the school committee. The teaching staff is composed mainly of men who have had considerable workshop experience, in addition to teaching experience in day or evening schools.

EVIDENCES OF EFFICIENT WORK.

The school has emerged from the experimental stage and has proved to be an undoubted success, admirably fulfilling the most sanguine expectations of its far-seeing founders. Four annual batches of lads have passed thru the school and are now working as apprentices in the engineering and building trades, with the most reputable firms in Liverpool and district. All continue their educational work in the evening classes held in the local technical schools, and from the rapid progress they are making in the science and technique of their respective subjects, they are easily distinguishable from their fellow-students who have not had the advantage of such a preliminary training as the Junior Technical School course provides.

Several employers who have accepted lads from the school have granted concessions solely on account of their having had this pre-vocational training. Among the advantages given may be mentioned:

(a.) The substitution of a five-years' in place of a seven-years' period of apprenticeship for joiners, plumbers, and cabinetmakers by members of the Master Builders' and Master Furniture-Makers' Associations, whose practice it has been to secure lads at 14 years of age and demand from them an apprenticeship term maturing on their reaching the age of 21 years.

(b.) The granting of facilities to engineering apprentices enabling them to secure an alround training by serving short periods in the fitting, erecting, pattern, and boiler shops with a final period in the work's drawing office to particularly capable lads, compared with the common and pernicious practice of retaining boys at the same job in the same shop for the whole apprenticeship period.

(c.) A few firms have given higher initial wages, with periodic increases in proportion to the ability displayed and progress made during apprenticeship.

(d.) A firm employing more than 5,000 hands, in addition to awarding 3 free scholarships annually, with allowances, accepts lads from the school into their engineering, building, and chemical departments on a shortened apprenticeship period; whereas in the past these positions, in certain respects, were considered as prizes only for boys possessing the usual kind of secondary school education.

Thus a "work" secondary school is recognized as being capable of providing a commodity deserving to rank as at least equal to that of the "book" secondary school.

COURSE OF STUDY.

The school year begins in August, and contains 42 full working weeks of 30 hours each, Saturday being a whole holiday. The morning and afternoon sessions are each 3 hours in length, and the lessons are arranged to occupy periods of either 1 or 2 hours. The weekly time-table has the following allotment of subjects and hours:

English subjects, 5 hours.	Workshop Practice and Theory, 9
Science subjects, 5 hours.	hours.
Practical mathematics, 5 hours.	Physical Exercises, 1 hour.
Geometry and Freehand Drawing 5 hours.	

A consideration of the syllabuses for these subjects in the order given will now be made without entering into detail.

English Subjects:—The course includes language and literature, commercial geography, industrial history, and elementary economics.

Such examples as "Evangeline", "The Traveller", "Idylls of the King", are provided to form models for critical study and constructive exercise in language and literature. In the first year the commercial geography of the British Isles is dealt with, while the dominions beyond the seas and foreign countries are reserved for the second year work, all being correlated with industrial history and economics. Industrial history embraces the feudal systems common in Europe in the middle ages, and gradually traces the development of trade and commerce to the industrial revolution, the factory system, and the period of prolific mechanical invention. In the later stages the question of transportation of goods by ships, canals, and railways is investigated, and the importance to industry of coal, steel, steam, gas, electricity, oil, and water is fully portrayed. Commercial correspondence of an essential character is practiced throughout the course and liberal use is made of the free libraries that are found in all parts of the municipal area. It is by adopting such a course as this that the present and future everyday experiences of the pupil are brought into actual relationship with his necessities, and incidentally he develops the cult for powerful, explicable, and versatile language.

Science Subjects:—The first year course is confined to physics and chemistry, and the second year course continues the chemistry, and includes a good deal of mechanics. The physics course embraces measurement, densities, Archimedes' principle, pressure in fluids, porosity, capillarity, effects of heat in expansion and change of state, capacities of

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Corn Judging.—A sample score card can be obtained from the university farm. Some general exercises given during January and February can be made very profitable. The teacher may have a corn contest. Have the pupils compete as to who can bring the best set of five ears.

Contests.—Select as a basis for a contest the article most raised in your community, or the one for which there is the greatest opportunity. Have the pupils take full charge of the product to be exhibited. If this is not possible, have them select it for the contests. These contests may be corn, potato, poultry. Have a special day and invite the parents. Have a competent farmer to act as judge.

Home Gardens. Much interest can be aroused in the gardens at home. For the school the thing that can be done will consist in beautifying the school grounds. Plant trees, make Arbor Day mean something. Plant shrubs in unsightly places.

Boys' and Girls' Clubs.—The thing most needed in the country is leadership and the ability to organize. Every school should have a boys' and girls' club. This should be taken up with Miss Huldah Peterson of the Extension department of the university farm.

The premium list of the state fair, published from year to year, will aid the teacher in directing her pupils in competing for premiums on entries that are adaptable to their community.

THE IOWA AMENDMENTS.

Three portions of the school laws of Iowa, as amended by the 1913 legislature, are of interest in connection with agricultural education. The first concerns normal training in certain high schools and reads as follows:

For the purpose of increasing the facilities for training teachers for the rural schools, by requiring a review of such common branches as may be deemed essential by the superintendent of public instruction and for instruction in elementary pedagogy and the art of teaching elementary agriculture and home economics provision is hereby made for normal courses of study and training in such four year high schools as the superintendent of the public instruction may designate, provided that such high schools shall be selected and distributed with regard to their usefulness in supplying trained teachers for the rural schools of all portions of the state, and with regard to the number of teachers required for rural schools in each portion of the state. It is further provided that where a township high school or a consolidated school organized in accordance with the provisions of chapter one hundred forty-three of the acts of the thirty-fourth general assembly be given preference over a city high school."

State aid will be provided for these high schools to the amount of \$750 per annum, payable in two instalments.

bodies for heat, melting points, properties of gases, mode of heat transmission. The chemistry includes oxidation, naturally recurring oxides and their reduction, reduction of ores, carbon-di-oxide, calcination, and uses of lime, sulphur, sulphur-di-oxide, natural sulphides, nitrogen, ammonia, nitric and hydrochloric acids, principles of analysis. The mechanics involves close association with actual machines, and includes work, power, screw-jack, wheel and axle, velocity ratio, mechanical advantage, acceleration, equation of motion, mass, weight, force, Newton's laws, friction, parallelogram of forces, movements, stress, strain, elasticity.

Practical Mathematics:—Here again close correlation exists between this course and science, geometry, and workshop practice. The first year course includes arithmetic in its practical applications, mensuration including the use of the field book, and algebra is taught as generalized arithmetic. Logarithms are introduced at an early stage and used continually thruout the course. The second year work amplifies the previous work and includes trigonometry.

Geometry and Freehand Drawing:—Practical, plane geometry constitutes the first year work and comprises scales, similar figures, proportion, angular measure, plotting simple surveys, polygons, circle, ellipse, isometric projection, all of which is treated as far as possible experimentally, cardboard and tracing paper being freely employed. The second year work embraces practical solid geometry, and after a thoro knowledge of orthographic projection has been secured, drawings of mechanical details from models are made. Among the examples employed are: bolt and nut, screws and screw connections, riveted joints, key and pin connections, journals, bearings, couplings, pulleys, wood and metal fastenings, parts of machines, roof, roof coverings, doors, windows. As a rule these drawings are made in pencil, but near the end of the course, inking, coloring, and lettering as done in a work's drawing-office are practised. Dimensioned sketches are made of most of the examples. The school is well equipped with models suitable for this purpose.

The free-drawing course includes model, outline, perspective drawing, and design. Again the models found in the building are useful as examples.

Workshop Practice and Theory:—The courses in both metalwork and woodwork are framed on broad lines so as to suit the requirements of boys who have done no bench or machine work previously, and those

who possess experience in the handicraft classes of the elementary school. Specialization in any particular trade is avoided and no attempt is made to teach engineering or carpentry, as the aim of the school is distinctly prevocational, and not to manufacture "handy" men, fitted only to swell the already large army of wood and metal "spoilers".

The *metalwork* course provides:

(a.) A series of manipulative exercises in iron, steel, copper, brass, and zinc, thus covering the whole range of the common metals and alloys, and thereby familiarizing the pupils with malleability, ductility, brittleness, hardness, and general suitability of metals for constructional purposes.

(b.) The opportunity to acquire skill in the use of the hand-tools found, in a modern metal-workshop, by means of exercises involving filing, chipping, surfacing, fitting, calibrating, forging, hardening, and tempering. Tool features are discussed and analysed.

(c.) Experience with the drilling machine, grinder, and turning lathe sufficient to familiarize the students with such essential machinery features as: variation of speed for different metals, belt driving from pulley to countershaft, cogwheel gearing, screw-cutting, boring, utility of chucks, besides granting the opportunity for the study of machines as a multitude of parts, which when working in harmony make a real "live thing" and an accomplished labor saving agent.

The *woodwork* course provides:

(a.) A wide range of graduated exercises and models in wood of different varieties, sufficient to illustrate the importance of timber in construction and its superiority over all other materials for specific purposes. Pupils are encouraged to suggest, and design, then execute work according to their experiences.

(b.) The means whereby dexterity in the use of edged tools may be gained thru planing, sawing, chiselling, gaging, and boring. The joints standardized by the joiner, cabinet-maker, and pattern-maker are employed as examples.

(c.) Opportunity for the pupils to gain experience in the working of high speed machinery; the need for special lubrication.

(d.) A training in use and care of cutting tools, including paring, incising, abrading, and boring tools. From the early stages pupils are encouraged to sharpen and set all tools.

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(d.) A training in use and care of cutting tools, including paring, incising, abrading, and boring tools. From the early stages pupils are encouraged to sharpen and set all tools.

Physical Exercises:—The school possesses cricket, football, and swimming clubs, and during the summer cricket is played in the public

park situated close to the school, and swimming is indulged in in the municipal baths; while association football forms the organized relaxation game for the winter months. All these pastimes are superintended by enthusiastic masters and form not an unimportant element in the social side of the school's activities. The king of all games—chess—is also largely participated in during the luncheon intervals, and matches are from time to time played with other schools.

In conclusion, it should be stated that this limited magazine space does not enable the question of prevocational education to be dealt with in all its aspects and the foregoing reflections must be considered only as a general synopsis of what is being attempted at the present time in the British Isles. Apparently John Bull has emerged from the alleged comatose state and is determined to span that ugly chasm which has so long existed in the education of the skilled workmen, and altho he may continue dispensing what has come to be known as cultural education, he has found that such a training more properly fits its recipients for leisure, rather than for the gaining of a livelihood; which may account for the report that the German takes a holiday in order that he may work, while the Englishman works in order that he may take a holiday.

Probably Ruskin sums up the matter most aptly by writing in "Fors Clavigera": "The idea of a general education that is to fit everybody to be Emperor of Russia . . . is the most entirely and directly diabolical of all the countless stupidities into which the British nation has been of late betrayed, . . . The efficiency of any school will be found to increase exactly in the ratio of its *direct adaptation* to the circumstances of the children it receives."

THE SUCCESS OF THE MOVEMENT FOR VOCATIONAL EDUCATION MEANS PEACE, PRECISION AND PROSPERITY IN OUR INDUSTRIES, AND HAPPINESS AND HOPE IN OUR HOMES.—
William C. Redfield, Secretary of Commerce.

VOCATIONAL GUIDANCE IN CINCINNATI.¹

FRANK P. GOODWIN.

IN response to a demand caused by changed industrial conditions, vocational education has become an important part of our public school system; our high school courses are, in a great measure, organized in accordance with the vocational idea, and vocational or prevocational education for children who will not go to high school will soon become an essential part of the work of our educational system. This introduction of vocational courses, combined with the complexity of modern vocational life, has forced upon us the necessity of attempting some direction of students in their choice of a life career and in their preparation for the same.

As a result, the Vocational Guidance movement, beginning almost simultaneously in at least two eastern cities, has spread thruout the United States; and today numerous city school systems are attempting work of this character or are studying it with a view to its adoption. It has been introduced into about twenty elementary schools of Cincinnati and has undergone a considerable development in one Cincinnati high school.

The movement had not advanced far in Cincinnati before our teachers realized that vocational guidance should be an educational process, and that the life career motive should be used as a means for prolonging the period of school life.

With us as in most city school systems it presents two distinct problems, differentiated by two classes of pupils:

- (1) The elementary school child who will not go to high school.
- (2) The student who takes or expects to take a high school course.

The latter group will include both eighth grade and high school children.

In regard to the former group, there is a general agreement among those who have investigated the subject that but little can be done for those pupils, except as prevocational training, manual in character, is introduced into the elementary school. This has been substantiated by the Chicago City Club Survey, under the direction of Prof. Mead; by the

¹ Read before the Ohio State High School Teachers' Association at Columbus, Ohio, Dec. 29th, 1913.

ordinary public elementary school subjects, 4 hours instruction weekly in modern languages thruout the course; 2 hours instruction weekly in laboratory science in the first and second years, and for the third and fourth years if found desirable; 3 hours instruction weekly in handicraft for boys during the first and second years, and a similar period in domestic economy for girls during the first three years; during the third and fourth years shorthand and bookkeeping are taken as optional subjects for 1½ and 1 hour weekly respectively.

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The minimum age for entry is 13 years, and the pupils consist altogether of elementary school boys who have arrived at some fairly definite conclusion that a manipulative career is their desirable objective. The parents of all admitted pupils are required to sign an undertaking that the course shall be completed and their sons placed as apprentices to trades for which the school provides a training. Should any of the pupils during their first year in the school prove to be obviously unfitted for craftsmanship they are advised to withdraw and select a vocation more suited to their natural attainments. It is in this respect that these schools serve a most valuable purpose, for by the end of their course it is quite possible to assort the pupils and definitely assign boys to particular trades, thus preventing further tragedies of attempting to fit square prisms into circular orifices. The fee charged for the course is £2/5/- per annum and this sum includes the cost of all books, materials, and apparatus required by the pupils.

There are 15 first year, and 15 second year free scholarships, and second year scholarship holders are entitled to a small maintenance allowance, granted by the school committee. The teaching staff is composed mainly of men who have had considerable workshop experience, in addition to teaching experience in day or evening schools.

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The school has emerged from the experimental stage and has proved to be an undoubted success, admirably fulfilling the most sanguine expectations of its far-seeing founders. Four annual batches of lads have passed thru the school and are now working as apprentices in the engineering and building trades, with the most reputable firms in Liverpool and district. All continue their educational work in the evening classes held in the local technical schools, and from the rapid progress they are making in the science and technique of their respective subjects, they are easily distinguishable from their fellow-students who have not had the advantage of such a preliminary training as the Junior Technical School course provides.

Several employers who have accepted lads from the school have granted concessions solely on account of their having had this pre-vocational training. Among the advantages given may be mentioned:

(a.) The substitution of a five-years' in place of a seven-years' period of apprenticeship for joiners, plumbers, and cabinetmakers by members of the Master Builders' and Master Furniture-Makers' Associations, whose practice it has been to secure lads at 14 years of age and demand from them an apprenticeship term maturing on their reaching the age of 21 years.

(b.) The granting of facilities to engineering apprentices enabling them to secure an alround training by serving short periods in the fitting, erecting, pattern, and boiler shops with a final period in the work's drawing office to particularly capable lads, compared with the common and pernicious practice of retaining boys at the same job in the same shop for the whole apprenticeship period.

(c.) A few firms have given higher initial wages, with periodic increases in proportion to the ability displayed and progress made during apprenticeship.

(d.) A firm employing more than 5,000 hands, in addition to awarding 3 free scholarships annually, with allowances, accepts lads from the school into their engineering, building, and chemical departments on a shortened apprenticeship period; whereas in the past these positions, in certain respects, were considered as prizes only for boys possessing the usual kind of secondary school education.

Thus a "work" secondary school is recognized as being capable of providing a commodity deserving to rank as at least equal to that of the "book" secondary school.

COURSE OF STUDY.

The school year begins in August, and contains 42 full working weeks of 30 hours each, Saturday being a whole holiday. The morning and afternoon sessions are each 3 hours in length, and the lessons are arranged to occupy periods of either 1 or 2 hours. The weekly timetable has the following allotment of subjects and hours:

English subjects, 5 hours.	Workshop Practice and Theory, 9
Science subjects, 5 hours.	hours.
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A consideration of the syllabuses for these subjects in the order given will now be made without entering into detail.

English Subjects:—The course includes language and literature, commercial geography, industrial history, and elementary economics.

Such examples as "Evangeline", "The Traveller", "Idylls of the King", are provided to form models for critical study and constructive exercise in language and literature. In the first year the commercial geography of the British Isles is dealt with, while the dominions beyond the seas and foreign countries are reserved for the second year work, all being correlated with industrial history and economics. Industrial history embraces the feudal systems common in Europe in the middle ages, and gradually traces the development of trade and commerce to the industrial revolution, the factory system, and the period of prolific mechanical invention. In the later stages the question of transportation of goods by ships, canals, and railways is investigated, and the importance to industry of coal, steel, steam, gas, electricity, oil, and water is fully portrayed. Commercial correspondence of an essential character is practiced thruout the course and liberal use is made of the free libraries that are found in all parts of the municipal area. It is by adopting such a course as this that the present and future everyday experiences of the pupil are brought into actual relationship with his necessities, and incidentally he develops the cult for powerful, expensionable, and versatile language.

Science Subjects:—The first year course is confined to physics and chemistry, and the second year course continues the chemistry, and includes a good deal of mechanics. The physics course embraces measurement, densities, Archimedes' principle, pressure in fluids, porosity, capillarity, effects of heat in expansion and change of state, capacities of

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Vocational Education: Legislation of 1910-1911. By C. A. Prosser. Reprint from American Political Science Review, November, 1912.

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Consular Reports on Continuation Schools in Prussia. Bulletin No. 9—1913, issued by the United States Bureau of Education, Washington, D. C.

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VOCATIONAL EDUCATION

MARCH, 1914

PREVOCATIONAL EDUCATION IN ENGLAND.

GEORGE THOMPSON.¹

WAKE UP! JOHN BULL!" Such was the pertinent message delivered by King George V, while still Prince of Wales, some ten years ago at a meeting held in the London Guildhall.

Whether this princely reminder was the cause of imparting new energy to John Bull's many and varied activities, or not, it is a fact, nevertheless, that he has during the last decade exhibited a greater desire than ever before to introduce progressive ideas to the business concerns of the nation. This go-a-head spirit looms large in all matters affecting the education of England's future manhood and womanhood, and after forty years of state-aided education for the democracy we are every day being informed by people in high places that radical changes are sorely needed in our educational aims and provision.

A real live movement is at present concerning itself with the question of providing industry and commerce with a more specialized form of human product than has hitherto been the practice, and it is pretty generally recognized that our schools can reasonably hope to manufacture the desired article without their relinquishing any of the ideals that have been held as essential in the past.

Up till a few years ago the primary schools of England and Wales were predominantly "book" schools, but of late, rapid progress has been made in the way of introducing to the schools a manipulative complexion, and manual training as a *method* has firmly established itself, with the result that the "learn by doing" policy is clearly evidenced by the curricula of schools controlled by all progressive education authorities.

¹ Headmaster, Trade Preparatory School, Toxteth Technical Institute, Liverpool, England.

There are in England and Wales 293 administrative school areas, and of these, 31 areas are still so satisfied with the somnambulistic state that they offer no instruction in domestic science subjects, while 73 have not sufficiently awakened to the importance of providing instruction in handicraft subjects of any kind whatever. Among the latter group of delinquents are, the royal and ancient borough of Doncaster with its important railway locomotive and carriage building industries, Hartlepool with its great shipbuilding yards; and towns of lesser importance still without "work" schools are, Beverley (Yorks.), Clitheroe (Lancs.), Lewes (Sussex), Aldershot (Hants.) and Berwick-on-Tweed.

The total number of children in attendance at day state-aided schools (England and Wales) in 1911-12, was:

Elementary schools (up to 14 yrs. of age)	6,075,024.
Secondary Schools (up to about 16 yrs. of age)	185,056.
Day Technical Schools (1910-11)	11,640.

Of the six millions attending elementary schools, 780,203 received instruction in one or the other special subject; of these 239,655 boys attended classes for handicraft; 327,632 girls took cookery; and 133,995 girls were taught laundry work; the remainder had instruction in housewifery, dairywork, or gardening.

The introduction of housecraft and handicraft subjects into the primary schools has undoubtedly enlightened the authorities as to the urgency of the need for courses of work with a more strictly vocational purpose, and is largely responsible for the existing movement towards a more vocational curriculum; but manual training as a school method will continue to advance and fulfil its high educational purpose, and thus bear out the arresting German school motto: "Train the eye and exercise the hand, then strong will be the will, and clear the understanding."

IMPORTANCE OF THE YEARS FOURTEEN TO SIXTEEN.

The saddest feature of our English primary school system is the almost universal desire on the part of parents to take their children from school at the earliest possible legal school-leaving age, which is 14 years, thus flooding the juvenile labor market with an imperfectly educated horde of boys and girls all modeled in the same mold and none possessed of a training that fits him or her for one particular vocation

before another. Furthermore, these juvenile nondescripts invariably are compelled to enter employment of an unedifying character, and those that eventually begin as apprentices in skilled trades at the usual age of 16 years are found to have deteriorated during the two years of casual labor. Any habits of study they may have acquired in their previous school life too often disappear altogether, and once lost these are not easily revived. Besides, both the children and their parents have grown accustomed to comparatively high wages, and will seldom reconcile themselves to the subsequent reduction which any sort of learnership to a trade necessarily involves. The boy and girl should be caught in the net of some skilled trade as he leaves school, otherwise it is not much use endeavoring to catch him at all.

These are the evils that the present day effort is endeavoring to remedy, and rapid progress towards a complete solution of the problem may be anticipated. Something substantial has already been accomplished in the shape of providing prevocational education by such schools as the newly established London Central Schools and Junior Technical Schools. These two types of schools will now be described, but it should be remembered that the Central School is designed to tackle a problem which is peculiarly metropolitan; while the Junior Technical School has to secure its footing and carve out a future among the infinite complexities that are inseparable from the industrial system as it exists today.

LONDON CENTRAL SCHOOLS.

These schools were inaugurated about three years ago, and the term "Central" is applied to them because of their acting as receptacles for children from the elementary schools in their immediate neighborhood. There are about 40 such schools in all, and about one-half of them have a commercial bias, and nearly one-half an industrial bias, while a few have a dual bias. Boys and girls are admitted between the ages of 11 and 12 years, thus enabling the four-years' course to be completed by the time they are 15 or 16 years of age, when they will proceed into business houses and workshops as apprentices and learners. So as to assist the children of poor parents who would otherwise be unable to allow their children to complete the course, 500 bursaries of £10 value each are provided; but the pupils are not eligible for these before the school-leaving age—14 years—is reached.

The schools with a commercial bias provide, in addition to the

ordinary public elementary school subjects, 4 hours instruction weekly in modern languages thruout the course; 2 hours instruction weekly in laboratory science in the first and second years, and for the third and fourth years if found desirable; 3 hours instruction weekly in handicraft for boys during the first and second years, and a similar period in domestic economy for girls during the first three years; during the third and fourth years shorthand and bookkeeping are taken as optional subjects for 1½ and 1 hour weekly respectively.

The schools possessing an industrial bias offer from 10 to 12 hours instruction weekly in practical work, which for boys consists of science, drawing, clay-modeling, woodwork, and metalwork, and in special cases, leatherwork, and printing; while the girls receive instruction in science, domestic economy, drawing, and needlework.

The eyes of the nation are fixed on this bold and highly interesting experiment, but owing to its recent introduction it is impossible to speak of its real educational value; but it is confidently anticipated that success will crown the effort, and one of the most vital defects in London's great educational concern forever removed. One of the outstanding features of the scheme appears to be that the workers of tomorrow are captured at the earliest possible feasible age, and by being brought face to face with some of the more easy problems of commerce and industry, they will exhibit a desire to prolong the school period, thus assisting to diminish that awful wastage that has been and is taking place between the time of leaving school at 14 years, and entering upon productive industry at 16 years.

JUNIOR TECHNICAL SCHOOLS.

Schools of this class are of quite modern date, and at the present time 53 such schools receive grants from the English Board of Education; but Ireland must share with England the credit for introducing them to these Islands some ten years ago when they were established at Belfast, Queenstown, Kilkenny, Portadown, and a few other towns. Very successful schools of this character are now to be found in Liverpool, Bootle, Leeds, Preston, Leicester, and other cities, and it is anticipated that a great increase in their number will take place now that the Board of Education has this year increased the annual state grant from £3 to £5 per pupil.

These schools are distinctly prevocational in character and have

been known by various names, among which are, Trade Preparatory, Preparatory Trades, and Pre-Apprenticeship; but in future they will rank as Junior Technical Schools and be organized in accordance with the regulations for such schools issued by the Board of Education last July.

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The school has emerged from the experimental stage and has proved to be an undoubted success, admirably fulfilling the most sanguine expectations of its far-seeing founders. Four annual batches of lads have passed thru the school and are now working as apprentices in the engineering and building trades, with the most reputable firms in Liverpool and district. All continue their educational work in the evening classes held in the local technical schools, and from the rapid progress they are making in the science and technique of their respective subjects, they are easily distinguishable from their fellow-students who have not had the advantage of such a preliminary training as the Junior Technical School course provides.

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bodies for heat, melting points, properties of gases, mode of heat transmission. The chemistry includes oxidation, naturally recurring oxides and their reduction, reduction of ores, carbon-di-oxide, calcination, and uses of lime, sulphur, sulphur-di-oxide, natural sulphides, nitrogen, ammonia, nitric and hydrochloric acids, principles of analysis. The mechanics involves close association with actual machines, and includes work, power, screw-jack, wheel and axle, velocity ratio, mechanical advantage, acceleration, equation of motion, mass, weight, force, Newton's laws, friction, parallelogram of forces, movements, stress, strain, elasticity.

Practical Mathematics:—Here again close correlation exists between this course and science, geometry, and workshop practice. The first year course includes arithmetic in its practical applications, mensuration including the use of the field book, and algebra is taught as generalized arithmetic. Logarithms are introduced at an early stage and used continually thruout the course. The second year work amplifies the previous work and includes trigonometry.

Geometry and Freehand Drawing:—Practical, plane geometry constitutes the first year work and comprises scales, similar figures, proportion, angular measure, plotting simple surveys, polygons, circle, ellipse, isometric projection, all of which is treated as far as possible experimentally, cardboard and tracing paper being freely employed. The second year work embraces practical solid geometry, and after a thoro knowledge of orthographic projection has been secured, drawings of mechanical details from models are made. Among the examples employed are: bolt and nut, screws and screw connections, riveted joints, key and pin connections, journals, bearings, couplings, pulleys, wood and metal fastenings, parts of machines, roof, roof coverings, doors, windows. As a rule these drawings are made in pencil, but near the end of the course, inking, coloring, and lettering as done in a work's drawing-office are practised. Dimensioned sketches are made of most of the examples. The school is well equipped with models suitable for this purpose.

The free-drawing course includes model, outline, perspective drawing, and design. Again the models found in the building are useful as examples.

Workshop Practice and Theory:—The courses in both metalwork and woodwork are framed on broad lines so as to suit the requirements of boys who have done no bench or machine work previously, and those

who possess experience in the handicraft classes of the elementary school. Specialization in any particular trade is avoided and no attempt is made to teach engineering or carpentry, as the aim of the school is distinctly prevocational, and not to manufacture "handy" men, fitted only to swell the already large army of wood and metal "spoilers".

The *metalwork* course provides:

(a.) A series of manipulative exercises in iron, steel, copper, brass, and zinc, thus covering the whole range of the common metals and alloys, and thereby familiarizing the pupils with malleability, ductility, brittleness, hardness, and general suitability of metals for constructional purposes.

(b.) The opportunity to acquire skill in the use of the hand-tools found, in a modern metal-workshop, by means of exercises involving filing, chipping, surfacing, fitting, calibrating, forging, hardening, and tempering. Tool features are discussed and analysed.

(c.) Experience with the drilling machine, grinder, and turning lathe sufficient to familiarize the students with such essential machinery features as: variation of speed for different metals, belt driving from pulley to countershaft, cogwheel gearing, screw-cutting, boring, utility of chucks, besides granting the opportunity for the study of machines as a multitude of parts, which when working in harmony make a real "live thing" and an accomplished labor saving agent.

The *woodwork* course provides:

(a.) A wide range of graduated exercises and models in wood of different varieties, sufficient to illustrate the importance of timber in construction and its superiority over all other materials for specific purposes. Pupils are encouraged to suggest, and design, then execute work according to their experiences.

(b.) The means whereby dexterity in the use of edged tools may be gained thru planing, sawing, chiselling, gaging, and boring. The joints standardized by the joiner, cabinet-maker, and pattern-maker are employed as examples.

(c.) Opportunity for the pupils to gain experience in the working of high speed machinery; the need for special lubrication.

(d.) A training in use and care of cutting tools, including paring, incising, abrading, and boring tools. From the early stages pupils are encouraged to sharpen and set all tools.

Physical Exercises:—The school possesses cricket, football, and swimming clubs, and during the summer cricket is played in the public

park situated close to the school, and swimming is indulged in in the municipal baths; while association football forms the organized relaxation game for the winter months. All these pastimes are superintended by enthusiastic masters and form not an unimportant element in the social side of the school's activities. The king of all games—chess—is also largely participated in during the luncheon intervals, and matches are from time to time played with other schools.

In conclusion, it should be stated that this limited magazine space does not enable the question of prevocational education to be dealt with in all its aspects and the foregoing reflections must be considered only as a general synopsis of what is being attempted at the present time in the British Isles. Apparently John Bull has emerged from the alleged comatose state and is determined to span that ugly chasm which has so long existed in the education of the skilled workmen, and altho he may continue dispensing what has come to be known as cultural education, he has found that such a training more properly fits its recipients for leisure, rather than for the gaining of a livelihood; which may account for the report that the German takes a holiday in order that he may work, while the Englishman works in order that he may take a holiday.

Probably Ruskin sums up the matter most aptly by writing in "Fors Clavigera": "The idea of a general education that is to fit everybody to be Emperor of Russia . . . is the most entirely and directly diabolical of all the countless stupidities into which the British nation has been of late betrayed, . . . The efficiency of any school will be found to increase exactly in the ratio of its *direct adaptation* to the circumstances of the children it receives."

THE SUCCESS OF THE MOVEMENT FOR VOCATIONAL EDUCATION MEANS PEACE, PRECISION AND PROSPERITY IN OUR INDUSTRIES, AND HAPPINESS AND HOPE IN OUR HOMES.—
William C. Redfield, Secretary of Commerce.

V.V

VOCATIONAL GUIDANCE IN CINCINNATI.¹

FRANK P. GOODWIN.

IN response to a demand caused by changed industrial conditions, vocational education has become an important part of our public school system; our high school courses are, in a great measure, organized in accordance with the vocational idea, and vocational or prevocational education for children who will not go to high school will soon become an essential part of the work of our educational system. This introduction of vocational courses, combined with the complexity of modern vocational life, has forced upon us the necessity of attempting some direction of students in their choice of a life career and in their preparation for the same.

As a result, the Vocational Guidance movement, beginning almost simultaneously in at least two eastern cities, has spread thruout the United States; and today numerous city school systems are attempting work of this character or are studying it with a view to its adoption. It has been introduced into about twenty elementary schools of Cincinnati and has undergone a considerable development in one Cincinnati high school.

The movement had not advanced far in Cincinnati before our teachers realized that vocational guidance should be an educational process, and that the life career motive should be used as a means for prolonging the period of school life.

With us as in most city school systems it presents two distinct problems, differentiated by two classes of pupils:

- (1) The elementary school child who will not go to high school.
- (2) The student who takes or expects to take a high school course.

The latter group will include both eighth grade and high school children.

In regard to the former group, there is a general agreement among those who have investigated the subject that but little can be done for those pupils, except as prevocational training, manual in character, is introduced into the elementary school. This has been substantiated by the Chicago City Club Survey, under the direction of Prof. Mead; by the

¹ Read before the Ohio State High School Teachers' Association at Columbus, Ohio, Dec. 29th, 1913.

New York Survey, under Miss Barrows; and by the Cincinnati Work Certificate Office, under Mrs. Wooley. Numerous cities, including Cincinnati, acting upon this idea, have established schools of this character. Already we have made a beginning in eight schools, but it remains to work out a plan of analysis and guidance for these children.

The second problem, that of the child who expects to take a high school course, is easier of approach, and perhaps much easier of solution. It is to this phase of vocational guidance that this paper is chiefly devoted. In this work, we are endeavoring to have the child select his high school course on the basis of the life career motive, and to use that motive as the impelling purpose which will keep him in school until graduation if possible. This supposes that he will endeavor to select that high school course for which he is best adapted, and which will be of greatest value in the preparation for the vocation of his choice. It does not necessarily follow, however, that the eighth grade child's choice of a high school course or his choice of a vocation will be final. In fact, the whole high school period is distinctly a formative one and the child should be permitted to change his vocational motive and also his high school course as often as good reason can be shown for such change. But this must not be understood to encourage vacillation or indecision. The importance of such a principle of selection is apparent when we consider that the child has nine high school courses based in a considerable degree upon the vocational idea from which to select.

The activities connected with this work in the eighth grade and in the high school present the three phases which are general to the problem.

- (1) A study of the personal characteristics of each pupil.
- (2) A study on the part of the pupil of the opportunities and conditions of a variety of vocations.
- (3) The adaptation of the school work to the vocational needs of the pupil and of the community.

STUDY OF THE INDIVIDUAL.

The study of the personal element should begin with the eighth grade and continue thruout the high school course. It should be done in a systematic manner, but not without that sympathetic interest characteristic of the true teacher. The plan is to schedule and record on guidance record cards those general characteristics which influence

the vocational success or failure of the individual. The schedule for the eighth grade is as follows:

<i>Vocational Record Card.</i>	<i>Eighth Grade.</i>
Name.	School.
Date of Birth.	Nationality.
Parent's Name.	Residence.
1. Health and Physical Characteristics (from the physician); Height, Weight; sense organs: eyes, ears.	
2. Powers of Observation: Good, Medium, Poor.	
3. Memory: Good, Medium, Poor.	
4. Attention: Good, Medium, Poor.	
5. Association: Rapid mental coordination, Medium rate of coordination, Slow mental coordination.	
6. Type of Activity: Deliberate, Impulsive, Neither.	
7. Intellectual Ability: Good, Medium, Poor.	
8. Manual Ability (Domestic Science or Manual Training Teacher): Good, Medium, Poor.	
9. Social Leadership: Well developed, Moderate, Absent (a follower).	
10. Perseverance: Good, Medium, Poor.	
11. Habits of Promptness: Good, Medium, Poor.	
12. Studies: Preferences, Successes, Dislikes, Failures.	
13. Vocation of parents.	
14. Which high school course?	
15. What vocation has the child in mind?	

The schedule for the high school varies but little from the above.

In recording these judgments concerning the student, the type of observation, attention, memory, manual activity, etc., should be indicated. For example, a person may have a good memory for verse but a poor memory for music; another may have a poor verbal memory but a good memory for a logically arranged group of facts; an artisan may be a good carpenter but have no aptitude for the fine work required of a manufacturing jeweler.

In this study of the personal element and the recording of the same, we have a kind of child study, the value of which will be limited by the size of the class, the opportunity to study the individual pupil, and the ability of the teacher to read and analyze character.

Teachers disagree as to the desirability of using the record card, the claim being made that it will be of little value except in the hands of a trained psychologist. It has been suggested also that the schedule herein presented is too general to be of much value. Such criticisms should receive careful consideration but we believe that teachers should

begin to make a more careful study of the mental and physical characteristics of children than heretofore and that at present only a few teachers are prepared to make a more detailed analysis than is herein indicated. Furthermore, we believe that the best way to develop a more careful study of the characteristics of children on the part of the teacher is by the use of a schedule of this character. The record card herein presented is the result of much discussion among a group of Cincinnati teachers, but its present form is due for the most part to valuable suggestions from Mrs. Helen T. Wooley and Dean Herman Schneider. But whether a record card be used or not, it suggests a kind of work that should be in progress in every schoolroom.

Knowledge of some of the characteristics included in this schedule may be acquired in the classroom, but the teacher who relies entirely on that, will know all too little about her pupils. Every other opportunity for a study of their characteristics should be embraced. For example, from seeing the children on the playground she may learn more about who have ability for leadership; and perhaps other characteristics not shown in the more formal intercourse of the schoolroom will present themselves. Consultation with the manual training teacher also is desirable as he has a peculiar opportunity to know children on the manual as well as on the mental side. Furthermore, pupils may show characteristics in the more informal conduct of the manual training room which are not noticeable under the conditions of the regular classroom.

Of not less importance in this connection is a personal acquaintance with the parents on the part of the teacher and conferences with them in regard to the characteristics of their children. Altho not always possible, it would be well if every teacher could be personally acquainted with the parents of every child under her direction. Opportunity for this may be very greatly increased by a parents' organization in connection with the vocational guidance work. The meetings of such an organization would give opportunity to discuss the selection of high school courses of study together with vocational questions, while here teachers might meet parents and discuss the characteristics and welfare of the individual pupil.

The course in vocations should be closely related to the occupational needs of the community and to the individual interests of the children of the class. The first topics discussed should be determined by the interests which the children already have. They will furnish much of the information themselves. This would be supplemented by

personal investigation on the part of the teacher, by having experts in various vocations address the pupils, by reading, by industrial excursions, and particularly in so far as possible by reports based upon careful investigation. Out of this work the child should develop a life career motive on which to base his choice of high school work.

It is needless to say that the eighth grade teacher should be well informed as to the details and purposes of the various high school courses and that she should be able to advise as to the educational and vocational value of each. When such work is definitely established in the eighth grade and children select their high school courses on the basis of the life career motive, we believe that a smaller percentage of mistakes will occur and that the proportion of failures in the first year of high school will materially decrease.

If this guidance work is to succeed in a large high school, the organization must be such as to permit a continuation of the careful study of the personal characteristics of each pupil begun in the eighth grade; and in so far as possible, this work, especially in the first year, should be in the hands of teachers who will exercise towards their pupils an intelligent and sympathetic helpfulness.

EMPHASIS UPON LIFE CAREER MOTIVE.

But that phase of vocational guidance in the high school which is most in evidence is the systematic effort to keep the life career motive before the students thruout the four years of high school life and to give them information which will assist in the choice of a vocation. In the first and second years the most important duty will be to follow up the failures and to use, along with other incentives, the life career motive as an important influence in getting pupils to do a better grade of work. This should be under the direction of the group advisers. As introductory to following up carefully the individual pupil who is likely to fail, the first year students should be given a talk which will include ideas such as are indicated in the following outline:

- Why are you in high school?
- Why did you select the particular course in which you are working?
- Why do you need a high school education? (Cultural, citizenship, vocational.)
- Have you determined what work you will do as a life career? If not, why not? Think this over; talk about it with your parents and others.
- If you have determined what your life work is to be, how do you expect the school work to help you prepare for it?

Are you in the high school course that will best help you to prepare for the vocation of your choice? Perhaps you cannot answer this now. If necessary, you should be given all year in which to decide. If you can show good reason for a change, you should be permitted to make it at the beginning of another year or perhaps sooner.

Autumn examinations are over. Some of you have failed. Why? Were you prepared? Have you done your duty? If you are to blame, what is the difficulty?

Do you lack earnestness of purpose and determination?

Do you fail to see clearly the influence of your school work on your future career?

The person who is prepared is the one who succeeds. You are forming habits that will make for success or failure. Personal conferences will be held between you and some teacher to determine the cause of failure, and, if possible, prevent a recurrence of it. Take advantage of every opportunity to get personal assistance from your teachers when it is needed.

STUDIES OF OCCUPATIONS.

For the second year, a series of lectures is presented on the various vocations. The first talk of this series for which the following may serve as a brief outline, relates to the choice of a vocation:

Some of you entered high school last year with the purpose of preparing for a definite career. Some perhaps had no such purpose then, but you may have now. Some have shown a more or less definite purpose by selecting courses that are vocational in character.

Each of the nine courses has vocational value for particular vocations. For example: The prospective physician should get as much natural science as possible; the boy who would become an engineer needs to take all we offer in mathematics, with physics and chemistry added. Some girls appreciating that every woman, married or single, may become a homemaker have elected the domestic science course; some of you have not yet selected a life career. It is important that you should do so and make your school work a preparation for it. It is not necessary, however, that selection be made at once. The entire high school period may be used, if necessary, by boys and girls to find that for which they are best fitted; but decision should not be put off longer than necessary. In high school we give a variety of studies and furnish opportunities for a variety of experiences that should help you to find yourself.

The choice may have been made already; if it be a good one, adhere to it. There may be good reasons to change; if so, do it soon. For those who have not decided and for those who are uncertain, we are about to present series of talks and other exercises. For those whose decision has been made, the talks and exercises will furnish a fund of valuable information and perhaps some new light as to what is necessary for success in any occupation.

Further explain to the pupils that these talks will relate to conditions and opportunities of employment in different vocations, to the personal elements of success and to the adaptability of the individual to the vocation of his choice.

Tell them that under the personal element, we shall consider what elements of character and personal habits are necessary for success. Say to them, "From the standpoint of adaptability you need to answer the question, 'Have you the particular qualifications which are necessary for success in the vocation of your choice?'" Lead them to see that in selecting a life career it is necessary to investigate the vocational opportunities that are open and the qualifications of the individual for entering the vocation of his choice. Show that a choice should depend upon the answers to the questions: Can I earn a fair living in the vocation of my choice? Will I be happy in the job? Will I be able to render some social service?

Finally say, "After making such a selection, either tentative or permanent, it is then your business to make your school work a preparation for your life work. This preparation includes the acquirement of as much knowledge and experience as you can get which will fit you for the work, the formation of habits which will make for success, and the development of a correct attitude of mind toward your work and toward those whom you are serving."

Some of these vocational talks are given by representatives of the various occupations; some are given by teachers. Some are given to all second year pupils, while others are given to the students of a particular department. For example, students in the commercial department will be given talks on the vocational opportunities and conditions in stenography, accountancy, advertising, business management. Students in the industrial department will be given talks on the building trades, the machinist trade, heating and ventilating, jewelry manufacture, etc.

In this connection we should also notice that the vocationalizing of our high school courses furnishes much greater opportunity for guidance than would be possible otherwise. With nine courses, each having vocational value for certain occupations and with considerable flexibility of program and courses, we are better able to learn the characteristics of the individual student and to meet his needs than would be otherwise possible. In Cincinnati we have about reached the limit in this direction under present college entrance requirements.

TALKS ON HIGHER EDUCATION.

In the third year we are giving our students a series of lectures on higher education, including such topics as the following:

- (1) Who shall go to college? Why? Who should not go to college? Why?
- (2) What our local university offers.
- (3) Ohio State University; typical of state institutions of learning, compare with Michigan, Illinois, Wisconsin.
- (4) Great eastern universities.
- (5) Schools of Engineering: Cincinnati, Purdue, Case, Cornell, Massachusetts Institute of Technology.
- (6) The best school for the social sciences: Harvard, Columbia, Chicago, Wisconsin.
- (7) Agricultural education.
- (8) Great schools of medicine, law, theology, journalism.
- (9) Women's colleges.
- (10) Vocational schools other than colleges and universities.
- (11) The Cost: earning one's way thru college.

Perhaps the English department has a superior opportunity to keep before the students of the high school the life career motive and to assist in giving them information that will be of value in the choice of a career. This has been worked out in the Central High School, Grand Rapids, under the direction of the principal, Jesse B. Davis. In discussing this phase of the work, Mr. Davis says:

Vocational guidance is or should be a process of drawing out from the pupil knowledge of himself, of opening his eyes to see the wide field of opportunity that is before him, and of developing in him the elements of character that make for successful life. It is thus a problem of self development and not a matter of mere information or the giving of advice. Following out this theory, we have selected in the high school the department of English for the purpose of experiment. In this subject we reach every pupil and at the same time offer the students subjects for composition that are of real interest to them and about which they have some ideas of their own.

During the past year we have been experimenting with this in the Woodward High School with a sufficient degree of success to believe in it.

The following topics (already published), for which we are under obligation to the Grand Rapids High School, will suggest the character of the work:

FIRST YEAR.

1. My health.
2. My habits.
3. My likes and dislikes.
4. A self estimate.
5. (Franklin, etc.,) at my age.
6. My opportunities compared with those of (Lincoln).

SECOND YEAR.

1. The kind of employment that I can get now.
2. Child labor.
3. Wages of those leaving school at the 8th grade, compared with the wages of high school graduates.
4. Why I have chosen my vocation.
5. My plan for entering the vocation of my choice.

THIRD YEAR.

1. What are business habits?
2. What kind of an employe does the business man want?
3. What elements of character are demanded by my vocation?
4. Does my vocation impose upon me any duty or obligation?

FOURTH YEAR.

1. My avocation.
2. What is public spirit?
3. Why be honest in business?
4. Should business interfere with public welfare?
5. The right use of money.

It will be seen that the first year themes are autobiographical or biographical in character; the second year themes relate to the world's work; the third year to the choice of a vocation and the elements of success; the fourth year to the relation of the individual to society.

In regard to the composition work herein outlined, Mr. Davis further says, "These suggested themes are merely types to show the aim of the work. Teachers who are in sympathy with the plan will readily work out their own ideas. The pupils themselves will also suggest many profitable studies. The one thought of preparation for life and life's work thru the chosen vocation should be the dominating purpose underlying the whole scheme."

In connection with this work there is considerable opportunity for the English teacher to direct the voluntary reading of the students to subjects of a vocational character. We have begun the collection of a

vocational guidance library and contemplate a considerable extension of the work within the present school year.

GIVING INDIVIDUAL ADVICE A FINAL STEP.

If possible, the senior year should be the time for final consideration of the choice of a vocation on the part of those who are still undecided. In this connection private consultation between the student and some person selected to be his counselor will be of great value. This is about the most delicate and distinctly personal work that the counselor of high school students is called upon to do.

It requires all the knowledge that can be obtained relating to the personal characteristics of the individual, to the characteristics necessary for success in particular vocations, to the probable needs for further vocational training, and to the opportunities for success and the conditions of employment in the vocations which the student has under consideration. The knowledge and guidance gained by the student thru lectures and the composition work in the previous year should now have an immediate practical value. That there is need for this is shown by a persual of the papers recently written by the members of the senior class of Woodward High School, 1913, on "My Plan for a Career." This class had received no such instruction and not more than one third of them had made a definite choice of a career. Those who had made a choice may be divided into three classes:

- (1) The student who has made a definite choice, has a good reason for his choice, and who has a fair chance of realizing success.
- (2) The student who has made a choice which may be good, but about which he manifestly needs counsel owing to a lack of knowledge of the vocation of his choice and owing to a lack of understanding of his own qualifications for the same. The largest number belong to this class.
- (3) The student who has manifestly made an unwise choice and needs to be told of it.

MODIFICATION OF COURSES OF STUDY.

The third element of vocational guidance, the adaptation of school courses to the vocational needs of the pupils, began before vocational guidance as a movement was in evidence, but the introduction of vocational guidance as an organized part of the school program is producing a valuable reaction in the acceleration of the development of vocational

education. In Cincinnati, as in several other cities, the elementary school teachers are considering the differentiation of seventh and eighth grade work to meet the needs of pupils going into: (1) industry, (2) commercial work, and (3) high school. A committee of the Cincinnati High School Teachers' Association is preparing a report on the adaptation of academic subjects to the vocational needs of the student, and the subject of vocational education is receiving more serious and more widespread consideration than ever before. As one indication of this we call attention to the fact that the business men of Cincinnati have become so interested in the movement that the Chamber of Commerce is preparing to begin an industrial and vocational survey of the city for the purpose of obtaining information on which to base a further extension of our system of vocational education and to assist in the work of vocational guidance.

As this paper relates for the most part to vocational guidance in the high school, let us in conclusion sum up the conditions which make for successful vocational guidance in a large high school:

- (1) The appointment of a director with time for supervision.
- (2) A school organization which will permit of the close personal contact of each pupil with at least one teacher of the right type.
- (3) The exercise of an intelligent and sympathetic helpfulness on the part of the teacher.
- (4) A logical analysis of the personal characteristics of each pupil.
- (5) An understanding of the relation of the school work to the life career motive.
- (6) The adaptation of school work to the vocational needs of the community.

EVENING CLASSES IN THE UNION HIGH SCHOOL, GRAND RAPIDS, MICHIGAN.

I. B. GILBERT.

ONE of the unique educational efforts of this present time is the adjustment of the school equipment to a wider use, both in the amount of time used and the wide range of people reached. Some parts of the tax paying community have received an indirect benefit only. The school day for the advantages of those children and young people able to remain in school reached altogether too small a portion of every community. In the industrial centers those needing help the most were those receiving the least; this was by far the larger part of the people. The well-to-do children make up a large part of our high school attendance. They look to the professions and higher places in business. For this smaller number a larger proportion of the money raised for educational purposes has been spent. To do something for the larger number, children and adults, forced to leave the schools early, night or evening schools have been established.

The justice and wisdom of the establishment of evening schools, no one can question. Men and women in the industries have as much right to and need for preparation for their work furnished at public expense as those in the more advanced vocations. The wide use of the correspondence school courses and shop schools of many skilled industries show the need of this work desired by men now employed in more or less technical occupations. The fact that the expense has been borne by private industries shows their belief in its necessity. On the other hand, the rapid advancement and development of industry forces new conditions of labor on workmen and employer alike. "Great strides have been made in mechanical lines during the past 25 years. Manufacturers and railroads feel the necessity of keeping up with the times. To this end we find a decided interest is being taken in industrial education, and training schools for apprentices are springing up all over the country," is the statement made by the Grand Trunk Railroad officials in their apprenticeship school bulletin.

The evening schools have been in operation for several years in Grand Rapids, but the industrial course is very recent. The schools

thus far have been opened on Monday, Wednesday, and Friday nights of each week. It is planned to run for twenty weeks each year, from the first of November to the last of March. A plan of four nights each week is now under consideration for this school by which two nights each week will be given to each course; in this plan the equipment would accommodate twice as many persons as a three nights per week plan. At the same time some persons might carry on two related courses, if the time could be given by such persons. This latter plan seems necessary to us now, as our waiting list demands it. Persons deposit one dollar on enrolling. If they are in attendance three-fourths of the nights that the school is open, this is refunded at the end of the term, whatever the length of the course may be.

The evening school is well advertised. The courses offered, date of opening, and buildings to be used, and time of enrolment are featured. In the Union High School a special circular is issued and distributed in factories, homes, and stores, a copy of which is given here:

TECHNICAL AND INDUSTRIAL
NIGHT SCHOOL

UNION HIGH SCHOOL
BUILDING
Fourth Street

*The following courses will be open to all
students for the winter session of evening school:*

TRADE OR INDUSTRIAL

1. Machine-Shop Practice, Tool-Making, Forging, Shop Mathematics, Blueprint Reading.
2. Cabinet-Making, Carpentry, Pattern-Making.
3. Mechanical Drawing, Machine Design, Free-hand Drawing, Rod Making.
4. Electrical Construction, (motors, dynamos, wiring for lighting, telephone construction.)
5. Millinery, Dressmaking, (cutting, fitting, designing) Making Children's Clothes.
6. General Cooking, Invalid and Infant Cooking.

COMMERCIAL AND ACADEMIC.

1. Shorthand and Typewriting, Bookkeeping, Arithmetic and Penmanship, Commercial Arithmetic, Window Card Writing.
2. High School Subjects: English, German, Algebra, History and other subjects demanded.
3. Regular seven and eight grade classes. Diplomas given on completion of eighth grade.
4. Elementary reading, arithmetic, and writing.

Come to the building to enroll October 29, 30, 31.
Classes will open Monday night, November 3, 1913.

The attendance this year in this building, tho the schools have been opened but three weeks is approaching the seven hundred mark, a decided increase over last year, with 450 men making the larger part.

PATRONAGE OF THE NIGHT SCHOOL.

The organization of the night school courses necessarily looks to three separate groups of persons: foreigners desiring to learn to read and to write the English language, those young people out of school who desire further academic or commercial education, and those who seek some additional preparation for the work at which they are now employed and which they cannot get in the place of their employment. In the first group, a teacher of their own nationality who is educated can most often do the most for them, as such persons have an understanding of the needs of the class. In the second case, the teachers of these subjects in the day schools can readily adapt themselves to these individuals. In the group seeking preparation for their daily occupation, a different problem is presented; only those who know the demands of this particular occupation from beginning to end are in position to help such persons as instructors. In this last case, the teachers must be trained workers from the industries or trades taught in order to do effective service in these industrial courses. At first thought these persons might seem difficult to secure from the workers in the shops and offices, but such has not been the situation in Grand Rapids.

Our commercial courses have been very successful. One group gives its entire time to bookkeeping, working on the individual plan entirely; while in the shorthand and typewriting courses the class plan is

followed to a greater extent. In another group penmanship, spelling, commercial correspondence, and arithmetic are given. By giving their entire time in one season to one course something worth while is accomplished, and better satisfaction results. Only more mature persons are admitted to the shorthand and typewriting, the younger



FIG. 1. UNION HIGH SCHOOL, GRAND RAPIDS, MICHIGAN.

persons being advised to start on arithmetic and penmanship, and then take either bookkeeping or stenography another year. In this arrangement of work an inducement is held out for the younger people to spend two or three years in this department without duplication of work, each season doing effective preparation in one thing. The enrolment in this department has reached 95, several of which were in attendance last year in this department.

INDUSTRIAL COURSES.

Several different industrial courses are offered: machine-shop practice, tool-making, forging, the tempering and texture of iron and steel, reading of blueprints for machinists, mechanical drawing, simple machine design, electrical construction for power operation, and—in a separate course—construction in wiring for telephone and lighting men,

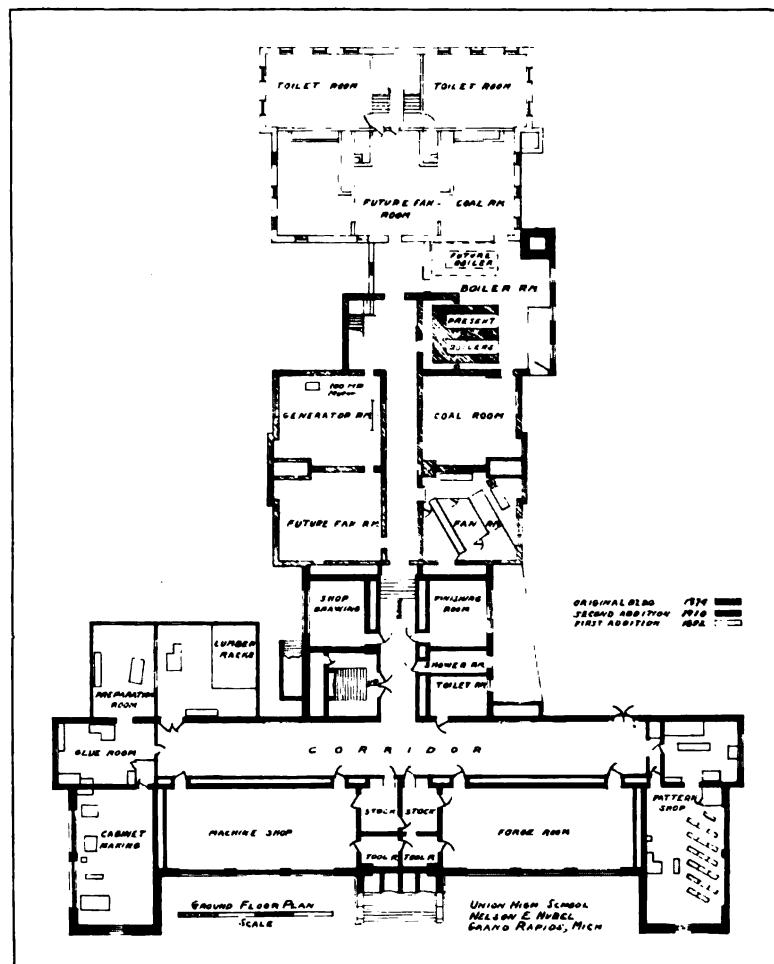


FIG. 2. GROUND FLOOR PLAN, UNION HIGH SCHOOL, GRAND RAPIDS, MICH. THE FLOOR PLANS SHOWN ON THIS AND FOLLOWING PAGES WERE DRAWN BY BOYS IN THE EVENING SCHOOL CLASSES.

cabinet-making for hand and also machine men, rod-making (which is the form of drawings used in furniture factories), freehand sketching as related to furniture design and construction, reading of blueprints for furniture workers, pattern-making, and saw-filing. In mechanical draw-

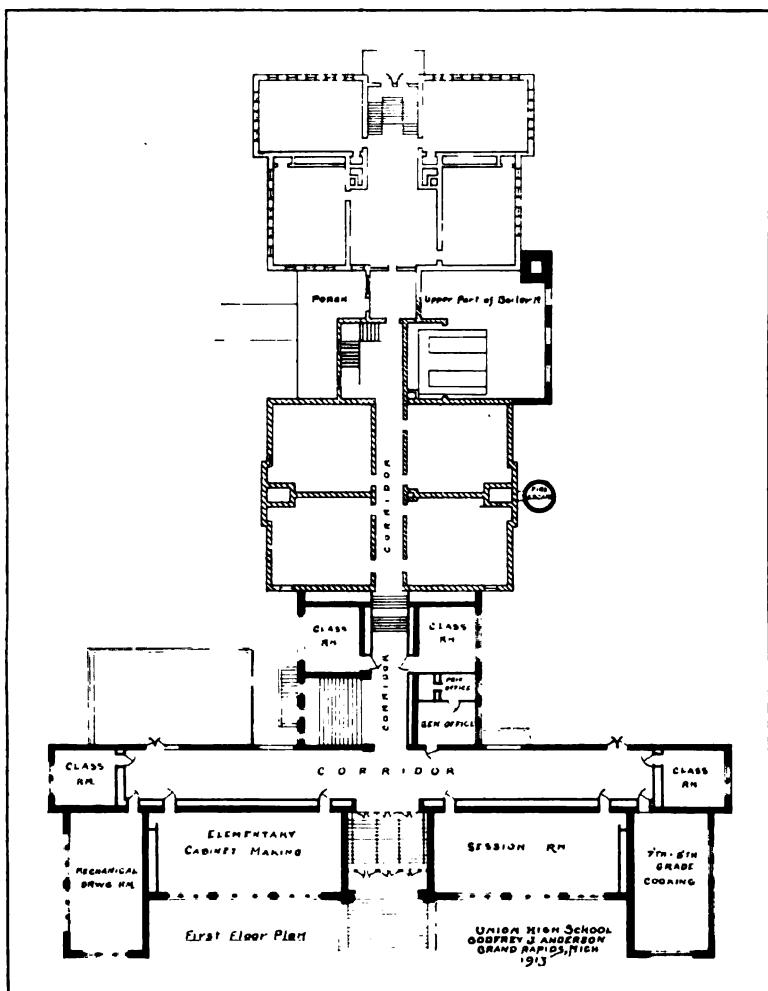


FIG. 3. FIRST FLOOR PLAN, UNION HIGH SCHOOL, GRAND RAPIDS, MICHIGAN.

ing and machine design 65 men are enroled; in machine-shop and blueprint reading there are 36 which is the capacity of the shop; in electrical work we have now 29. In cabinet-making and other woodworking classes there are 68 enroled. As teachers for these industrial courses men from the factories were secured. The rod-maker is from the large Berkey &

Gay Company factory; the furniture designer from the John Raab Chair Company; the man teaching the blueprint reading is foreman in the Elliott Machine Company; the machine design is taught by a commercial designer of the city who is a college man and has had several years of successful experience. The practical knowledge and experience of these men as teachers is the vital thing in the success of these industrial courses. In the machine-shop, rod-making, and electrical classes we now have a waiting list. Our plan of development has been to get some courses well established before opening up others.

MEMBERSHIP IN THE INDUSTRIAL COURSES.

Only men now at work in these trades, and who know their needs, are admitted to these classes; as, for instance, those in the machine-shop practice course are now at work in some machine-shop of the city. Some courses as machine design, mechanical drawing, and electrical construction run thru the winter, three nights per week, while others run but twelve or fifteen nights as is the case with the blueprint reading, forge, and saw-filing. These courses are planned as unit courses, by which the work done is strictly along the one line followed by the men in the shop, and no work is presented unless it meets their immediate needs. The teachers from the industries can closely correlate the work of the shop and school. A few men who are in the rod-making group for the second year are taking some freehand sketching or furniture design, as the group was too large to manage well, and these men need some sketching if they are to be rod-makers.

The machine design class is made up largely of foremen of machine-shops, and draftsmen of limited training and experience. It is doubtful if a hard and fast rule can or should be laid down to govern the make-up of all classes or groups. For the younger men or boys from 16 to 20 years of age, until they have determined their work, we recommend mechanical drawing. In the apprenticeship course at the Grand Trunk Shops, Battle Creek, Mich., this idea is followed. Their recent bulletin reads, "The educational classes are held two nights each week. Two hours each night are devoted to teaching technical drawing, practical mechanics, and electricity." In our course of mechanical drawing shop problems are discussed and as soon as possible simple parts of machines are drawn.

Here, as in commercial courses, an arrangement of courses makes it

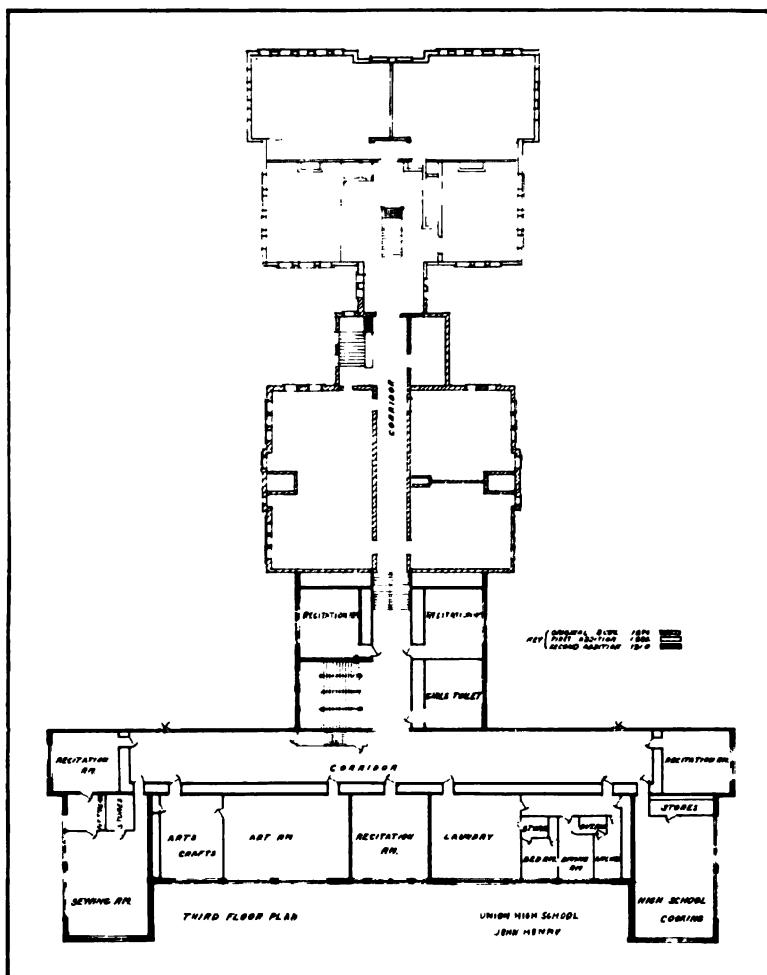


FIG. 4. THIRD FLOOR PLAN, UNION HIGH SCHOOL, GRAND RAPIDS, MICHIGAN.

possible for a young man to follow one line of work for two or three winters, as they do; in the machine design course at the present time nearly one-half the class were in mechanical drawing in this school last winter; about this same proportion of the present rod-making and machine-shop group were in this department last year. In addition to

these men returning from one season to another it is interesting to find young men who have left school, entering the evening courses that are allied to their present occupations.

The equipment of the building which has 40 rooms and shops is excellent for the day and night school work; it is ample for special work



FIG. 5. CLASS IN ROD-MAKING, FURNITURE WORKING DRAWING.

as given at evening school for men now employed as foremen in the factories, and for the vocational courses taken by the students of the day school. Three mechanical and two freehand drawing rooms, an excellent equipment for commercial courses, with our own power and light plant, furnish good opportunities for work. The sewing, cooking, mechanical and freehand drawing, bookkeeping and shorthand, science rooms and laboratories are modern and complete. The forge room has eighteen down draft forges connected with a blower and exhaust fan, an equal number of anvils, one 75 pound power hammer, drill, and shear, and a gas furnace with muffler, forge, and crucible. The machine-shop has the most modern and commercially complete equipment. Here are six engine lathes and one speed lathe of different designs driven with counter-shafting, one shaper, planer, milling machine, with two drill-presses individually driven. The pattern and cabinet shop each has a band-saw, jointer, jig-saw, combination rip and cut-off saw. The pattern shop, in addition to these machines, has eighteen lathes, a trimmer, an auto-

matic grinder, and twelve pattern benches; while the cabinet shop has regular cabinet benches. The mill room has one rip-saw, a cut-off saw, a 14-inch jointer, and a 26-inch planer, with ample lumber racks. The machines in these wood shops are individually motor driven.

COURSES FOR GIRLS AND WOMEN.



FIG. 6. CLASS IN DRESS FITTING, CUTTING, AND DESIGN.

In the courses offered to girls and women the same plan is followed; i. e., to give them what they need in their work, and what they cannot get where they work, whether it is at home or in a shop. In the trade classes we have teachers who know the trade, as in millinery, cutting, fitting, and dress designing. Those in commercial shops were grouped together, an experienced woman in cutting and designing having charge, and a trade standard of work demanded. A course in making of children's clothes was given this year, planned primarily for mothers. In cooking not only general cooking was given, but a course in infant and invalid diet; and the cooking classes were all patronized.

Increasing the efficiency of the home by these homemakers' courses is a definite part of our purpose and plan in this evening school. Women and girls are found in the sewing and dressmaking group, 25 in millinery, many of whom are married women and mothers. In cooking about 50 are enrolled. The homemakers' courses we have found are attractive

to many young women in stores, shops, and offices. Approximately one-half of our attendance in this department is of married women. Grouping of those taking this work by age and ability is followed here as in the commercial and the industrial departments. Only the older women are in the cutting and dress design work, where about 50 are enroled.

The sewing rooms used by this department are well equipped with sewing machines, cutting tables, fitting forms, and sewing tables. The supplies are paid for by the women taking the sewing, but the school furnishes the cooking supplies without charge. Cooking and millinery courses are taken one night each week, while most of those taking sewing attend three nights each week. Some take cooking, and either sewing or millinery one night each. The kitchens of the building are modern and complete, of a standard similar to that of a well built home.

The manufacturers and merchants of the city whose work is affected by the courses offered have been interested. The unit courses in rod-making, saw-filing, furniture finishing, blueprint reading, and machine-shop have interested employers. The unit course idea has interested many workmen, when taught by one of their own number whose knowledge and position they respect, and who can give them what they actually need now. In some of these courses we now have a waiting list. However, there seems to be thus far less interest on the part of the older than in the young men even in these short unit courses. It is work that broadens out the night school classes in a needed way, bringing employer and employe together. The stamp of approval has been given to this work by the entire community.

WHAT THE EMPLOYERS OF THIS COUNTRY DEMAND OF THE PUBLIC SCHOOLS, BEFORE TRADE TRAINING IS ATTEMPTED AS A PUBLIC FUNCTION, IS A REVISION OF PRESENT TEACHING METHODS THAT WILL HOLD THE INTEREST OF THE YOUNG, BOYS AND GIRLS, AND RESULT IN GRADUATES WHO CAN THINK STRAIGHT, THINK IN NUMBERS, THINK IN DRAWING, THINK IN COLOR AND FORM AND PROPORTION, TOGETHER WITH A SCIENTIFIC MANUAL OR VOCATIONAL TRAINING THAT WILL ENABLE THE HAND TO GIVE CORRECT EXPRESSION TO THE THOUGHT.—
United Typothetae of America, Annual Report, 1913.

COMMERCIAL EDUCATION IN GERMANY.

E. GEORGE PAYNE.

THE discussions of vocational education in this country in the past few years have centered almost exclusively upon industrial and trade training, presenting the ways and means of carrying on trade schools. No one seems to have had in mind the specific needs of the commercial groups. This also has been the case when American writers have discussed the German schools. The reason for the neglect of this important aspect of education is that we developed, in the middle of the past century, private business schools—"Business Colleges"—designed to prepare persons to fill the clerical positions in our commercial life. These schools grew very rapidly, extended their scope, and satisfied the demand for commercial training in so far as the demand was expressed by the business world. The instruction given in the commercial schools has been largely in commercial correspondence, arithmetic, bookkeeping, stenography, and typewriting. This very definite subject-matter, easily organized and taught, has since worked its way into the courses of nearly all the public high schools, regardless of the needs of the community for this kind of training. In fact, the course, extending over a period of from one to four years, is generally taught by those little familiar with commercial life. The commercial course is made up of a group of the regular high school subjects, together with the commercial branches. There has been on the whole little effort to adjust the commercial course to the needs of the commercial life of the community, to make it wholly vocational, or to select instructors familiar with commercial needs. The commercial course in its practical workings remains, therefore, almost as little vocational as the classical course. In view of the light that the development of the German schools throw upon the problems and needs in this country I am presenting this discussion of "Commercial Education in Germany."

Germany has developed a wholly different kind of commercial education, really the product of the twentieth century, much broader in its scope and more comprehensive in its purpose than that in America. At the close of the nineteenth century the German people had begun to manifest intense interest in commercial education. The latter part of the nineteenth century had witnessed marked growth and extension of trade, the development of large commercial establishments, the extension and readjustment of the smaller establishments, and the development

of commerce in both local and foreign fields. Antedating these commercial advances began certain industrial and economic readjustments: that is, the beginning of mass production, the development of transportation by land and sea, the introduction of new methods and means of exchange, the increase in population, new groupings of the people, the improvement in general well-being, the refinement in needs and tastes, the phenomenal increase in the divisions of labor, and specialization in industry. These material changes created a need for commercial training. Moreover, the fact that industrial, trade, and technical schools of every kind had for decades been meeting effectively the needs of other classes of the industrial population afforded an example and demonstrated the value of such special schools conducted for the commercial classes.

The extension of trade activities compelled the commercial groups to draw, from other fields, forces to carry on commerce, since the supply of artisans engaged in trade was no longer adequate for commercial needs. Those coming from other lines of activity entered the commercial vocations with no special preparation, consequently could not perform commercial work satisfactorily without special training. In fact, the growing complexity of the commercial activities had made it impossible for the sons of those engaging in trade to enter their father's place of business and carry on the work successfully without training in addition to that which the father could give them. The man entering commercial vocations had previously secured his training from the general courses of the ordinary schools. That training was supplemented by the addition of an apprenticeship in his father's business establishment, leaving the young man well fitted for the work he was to do. This was no longer possible. The difficulty of using untrained persons was, moreover, increased by the growing impersonal nature of commercial enterprises. Commerce came to be carried on by corporations with managers having no personal interest in the employees, such as the owners had had under the old regime. They were interested only in the amount of efficient work the laborer could perform. Consequently the old apprenticeship system, not being suited to the new conditions, fell to pieces.

DEMAND FOR NEW TYPE OF TRAINING.

The result of these changed commercial conditions, therefore, was that the ordinary schools with their general courses could no longer

give the training required of the young people entering upon commercial vocations. An illustration of the need of special training not given by the regular schools is seen in the demand for ability to speak and write foreign languages. The increasing foreign trade and intensifying of competition in the foreign fields required a knowledge of foreign customs, trade conditions, and languages. The schools, however, continued to teach language, aiming to secure an appreciation of the literature of the language; to teach English, for instance, for the appreciation of Shakespeare, and to spurn, as an achievement suited only to waiters and servants, a practical speaking knowledge of the language. Of course, there were notable exceptions, but the large majority of the *Gymnasien* and the *Realschulen* were governed by such an ideal.

The growing need for a school with such a course of study, relating to the needs of the commercial life, as would give knowledge making for general and individual efficiency in trade and commerce, became more and more insistent. Naturally the commercial houses felt this need first. They began to meet the need by supplying instruction within the establishments where the need was felt—instruction which was paid for by the individuals, corporations, or associations expecting to derive higher profits from more efficient service. The outcome of this effort was the demonstration of the value of special training for commercial vocations—a training in the science of trade and commerce. It was seen further that the value of such training extended beyond the enterprises specifically benefited, to the community, but that these establishments were not in a position to give adequate training for the broader needs of commerce in its relation to the whole social life. The instruction in the establishments had to be very limited and designed to correct the most obvious defects of the employes. A school with a course of study in modern languages, the laws of trade, political economy, etc., could alone meet the recognized needs of commerce. The final and important outcome of experimenting with commercial education, however, was a system of commercial schools as a result of the conclusion that training should be had before entering into commercial institutions.

Following somewhat in order the development of commercial education, the first propaganda, as well as the first support, came from those immediately interested in the outcome of the training. The cities, communities, and finally the states, offered their moral support

from the first, and their financial aid when the worth of the instruction came to be felt as of general social significance. The schools were under the control of the city or state from the first and the result of the training was carefully studied. With the exception of the schools, few in number, that were in operation during the past century and privately supported, the present system of commercial schools began with the founding of the commercial school of Cologne in 1897. Leipsic followed with its commercial college in 1898, Altona with its higher school in 1900, and Cologne with its commercial college in 1901. In the year 1902 the government established commercial continuation schools in Posen. A remarkable growth followed these simple beginnings. In 1903 there were 253 publically controlled commercial continuation schools in Germany. At the present time the number of all kinds of commercial schools exceeds 1,200.

TYPES OF SCHOOL.

From the effort to meet the needs of training for commercial activities have developed four different kinds of schools, each meeting a different sort of need. The first of these is the commercial continuation or lower commercial school, *Kaufmanische Fortbildungsschule*, or *Einfache Handelschule*, comprising the first years of the high school or secondary training in American education, for pupils about thirteen to sixteen years of age. The purpose of this school is to afford simple preparation for lower clerical positions or for entrance to the higher types of the commercial schools. The second group are the higher commercial schools, *Hoehere Handelsschulen*, the equivalent of the last three years of the German *Gymnasium* or the last year of the American high school with the first two years of college. This school serves either one of two purposes: to continue the preparation begun in the lower school leading to the middle class position in commerce, or to prepare for the commercial colleges. The third group, the commercial colleges, *Handelshochschulen*, includes the last two years of college work, and some are offering in addition, university training. The graduates of colleges enter directly into the highest commercial positions, becoming bankers, consular officials, managers, etc. The fourth group, *Meisterkurse* comprises schools of a secondary nature providing training for persons already active in commercial vocations for the purpose of securing greater efficiency, thus strengthening German commerce at home and abroad.

All of the commercial schools admit women to their courses on an equality with men. This fact indicates the marked tendency of women

in Germany to enter commercial vocations. The result of women entering the commercial schools has been a liberalizing influence in extending the activity and position of women. In fact, it is due largely to the influence of the commercial schools and the work of women there that they have been gradually admitted to other schools. The King of Prussia, in 1909, issued a decree admitting women to the universities on equal terms with men, and providing college education for them so that they would be able to do university work. Of course, the work of women elsewhere, the general industrial changes, and the growing desire on the part of woman herself for wider educational opportunities, have been factors in securing her admission to the universities, but the greatest influences have been the growth of commerce with its liberalizing influence on the one hand and the work of women in the commercial schools on the other.

I should like to devote the remainder of this article to a brief outline of the first two types or kinds of school mentioned above; that is, the commercial continuation schools and the higher commercial schools. As I have said, the commercial continuation schools are designed to prepare persons for the lower commercial positions or for the higher commercial schools. The course of study is therefore varied and practical. The course generally comprises the following subjects: First year, commercial arithmetic, stenography, penmanship, commercial geography, a study of raw materials, the source of supply, how used, etc., commercial correspondence, the character and uses of stocks and bonds; second year, the same subjects as given in the first year plus a study of all the materials involved in trade, bookkeeping, and the science of trade; third year, a study of the laws governing commerce and trade is added to the courses of the first and second year. Most of the schools require in addition to these subjects work in the modern languages and typewriting, and all of the schools have elective courses. It is evident from the outline of the course of study that the commercial school differs entirely in purpose, function, and subject matter from the non-vocational schools. It appears clearly also that the course is not merely tacked on to the regular course of the ordinary school.

The higher commercial schools offer courses that continue the work just described and prepare for the commercial colleges or for the middle class positions in commerce. The subjects covered in the main are business forms and correspondence, the modern languages, political economy, the science of trade, mathematics, commercial and industrial

history, commercial geography, natural sciences, writing, drawing, and stenography. The various types of commercial schools offer night instruction, but they are primarily day schools and offer night courses mostly for the general public and for some who cannot take advantage of day instruction. However, it is not believed advisable for the boy or girl who works during the day to attempt another day's work at night. Moreover, it is the purpose of these schools to give fundamental training, and night schools could give only supplementary training at best.

What distinctly impresses one about the German commercial schools is the fact that they are thoroly practical in that they afford training for specific vocations; they are cultural in that they demand a thoro mastery of scientific subject-matter; they are motivated in that the courses lie in the field of the students' interests; they are effective in that they prepare for higher institutions without loss to the student—if, for any reason, he is unable to pursue his course to the end, he is at least prepared for some useful vocation; and, finally, they are broad in purpose in that the dominant ideal is the training of effective and useful citizens.

THE GREAT REASON, CERTAINLY FROM THE POINT OF VIEW OF THE SOCIAL WORKER, WHY THE NEW IDEAS OF VOCATIONAL TRAINING ARE NOT GOING TO UNDERMINE THE BROADLY CULTURAL CONCEPTION IS THAT WE HAVE IN THESE DAYS WHAT IS PRACTICALLY AN ENTIRELY NEW CONCEPTION OF WHAT VOCATION IS. THE REASON, I THINK, WHY MANUAL LABOR HAS BEEN LOOKED DOWN ON IN THE PAST, WHY A CERTAIN FEW VOCATIONS HAVE BEEN CONSIDERED THE PRIVILEGED VOCATIONS, WHY EDUCATION WAS CONSIDERED TO LEAD THEM ALMOST EXCLUSIVELY, WAS THAT THOSE VOCATIONS HAD ABOUT THEM THE DIGNITY OF SOCIAL SERVICE. THEY WERE NOT THOUGHT OF MERELY AS WAYS BY WHICH ONE COULD EKE OUT A LIVELIHOOD. NOW WE ARE COMING TO SEE TODAY, UNDER THE NEW SOCIAL CONCEPTION, THAT EVERY KIND OF CALLING NOT ONLY HAS BEFORE IT THE POSSIBILITY OF HAVING THE DIGNITY OF SOCIAL SERVICE, BUT THAT IT MUST MORE AND MORE BE CONSIDERED BY EVERYBODY AS HAVING VALUE IN SO FAR AS IT RENDERS SOCIAL SERVICE. THAT CONCEPTION RAISES EVERY CALLING INTO A WONDERFUL NEW SIGNIFICANCE. IT BRINGS INTO AND PLACES ALL ABOUT IT THAT BROAD ATMOSPHERE OF BEING IN TOUCH WITH A LARGER LIFE. IT GIVES IT THAT NOTE OF HUMANITY WHICH IS SUPPOSED TO DISTINGUISH CULTURE.—Robert A. Woods.

ELEMENTARY PROBLEMS IN ELECTRIC WIRING FOR THE TRADE SCHOOL.

CHARLES F. BAUDER AND RALPH P. EARLE.

THE Philadelphia Trades School enjoys the distinction of being the first public trade school to be established in the United States, having been opened in September, 1906, as a day and evening school. Later, because of the great demand for evening instruction in the trades, the Evening Trades School No. 2 was organized. The work in the two schools is conducted along similar lines.

The most popular of the courses taught, in point of number of students, has been electrical construction, in both the day and the evening schools.

The purpose of this article is primarily to describe the methods employed in the teaching of wiring as a part of the course in electrical construction. These methods are practically identical in both the day and evening schools, the only difference being that in the evening the work is necessarily somewhat abridged, because of the shorter time available. It may not be out of place, however, to point out first the relation which the wiring bears to the entire course in electrical construction.

In the day school the full course occupies three years of practice and theory, closely coordinated. The practical shopwork consists of a year and a half of wiring and a year and a half of instrument and machine testing, the object of the tests being the study of the principles and behavior of commercial apparatus. The theory does not begin until the end of the first half year; it continues thruout the following two and a half years in close relation with the shopwork.

The students are graduates of the elementary schools of the city, averaging about fifteen years of age. On entrance into the Trades School their knowledge of electricity has been limited to the operation of their house bells, or of their amateur wireless sets.

They are introduced to the work by a half year of elementary wiring of bell, annunciator, telephone circuits, etc., involving the use of light apparatus and of low voltage. This brings out any aptitude which the boys have for electrical work, and develops an interest in the subject which leads well to the later study of the theory. The academic work during this term includes arithmetic, algebra, English, and general science, so that when the electrical theory is begun, the student has not



FIG. 1. RETURN-CIVIL ANNUNCIATOR SYSTEM, INSTALLED ON A FRAME. SEE ALSO DIAGRAM, FIG. 3.

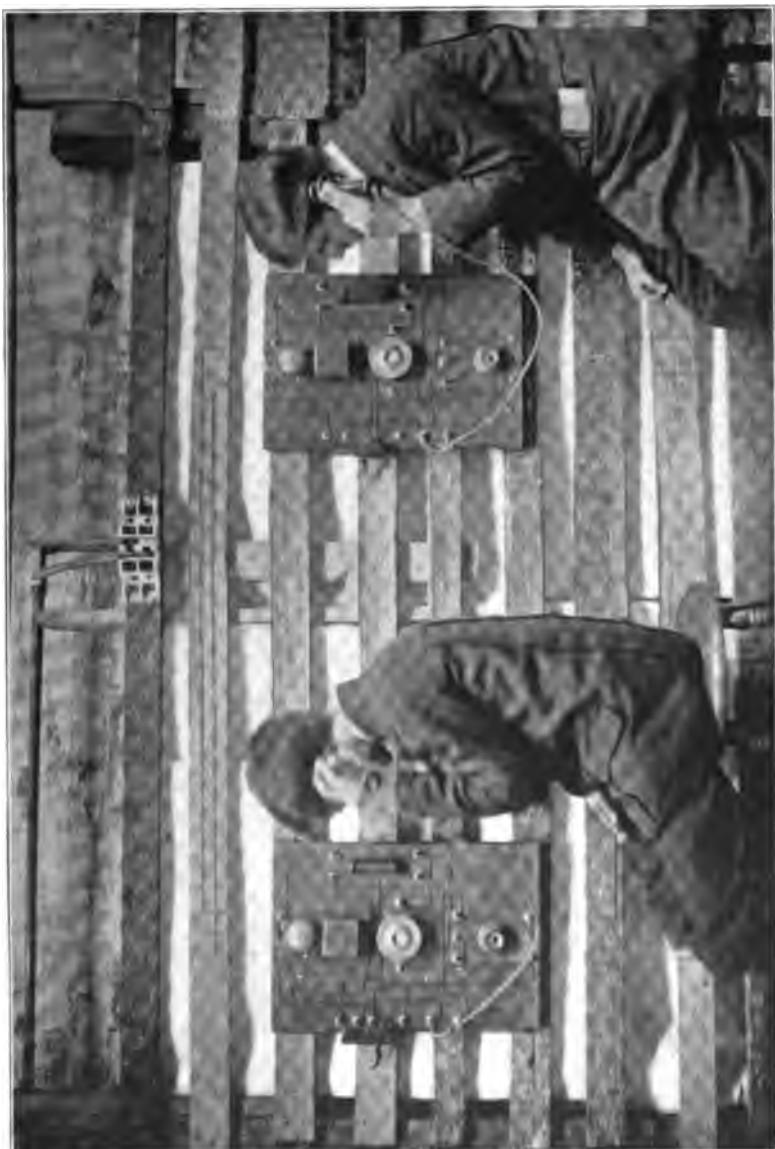


FIG. 2. TELEPHONE INSTALLATION ON A FRAME. SEE ALSO DIAGRAM, FIG. 6.

only an eagerness for it, derived from his shopwork, but also the requisite preparation for it. He has, moreover, a working knowledge of batteries, of electric circuits, both series and parallel, and of electro-magnets, as they have been actually applied in his shop problems. In the operation of the various types of apparatus, after the wiring has been correctly installed, the student has gained a practical knowledge of the workings of electric current under conditions which to him are of great interest. He possesses an excellent foundation on which to build the organized scientific principles of electricity.

In the second half year, the boy begins his theory in the study of a textbook of electricity and magnetism. His shop practice advances to electric light wiring, of the knob-and-tube and molding type. This practical work involves the use of ordinary lighting voltage, and of the various fittings authorized by the National Electric Code. The shop-work during the third half year includes electric light and motor wiring, using metallic conduit, both flexible and rigid. In the classroom, the theoretical work is made to apply closely to the practical problems of the shop. From the time wiring for electric light is begun a careful study of the National Electric Code, giving the Underwriters' requirements, is made in the classroom, under the direction of the shop teacher, and these rules are rigidly followed in the shopwork.

The wiring work consists of a series of problems, arranged and graded in the order of difficulty, and involving a logical sequence in principles, and in the use of commercial equipment. The pedagogical necessity for repetition is observed in the grading of the problems. New principles are studied with succeeding circuits, but care is taken that principles and methods previously studied are repeated and observed in the new work.

EQUIPMENT AND MATERIALS.

The wiring is done chiefly in a large shop room, on wooden frames or lattices built against the walls. On these frames all of the problems are first installed. Figs. 1 and 2 show two of the elementary problems completed, with the boys who did the work. Work with the frame has one disadvantage: because all parts of the work are visible, the student does not get the full experience needed in installations on a larger scale. Economy of material, however, requires the use of the frame at

first, and it has some great advantages. The boy learns the basic principles which govern good wiring under all conditions. He learns to be neat, and to be economical of material. His joints must be well made; his fittings must be properly placed; his wires must be straight and taut, etc. He acquires an attitude of respect for good work which is of value to him whether he finally enters the electrical field or not.

The work on the lattices, however, is supplemented by the wiring of model structures built by the students of carpentry as part of their work. This work includes all the practical points and methods used in actual construction, but does not cover as much variety of work as that done on the wiring frame. Excellent practice is furnished also by the installation and repair of the power and lighting circuits of the building, all of which is done by the electrical students.

From thirty to forty students can be accommodated together in the shop, working in groups of two or three. The material is kept by a storekeeper, and is furnished to the boys on their written requisitions, when initiated by the instructor in charge. Neatness and the use of the proper trade nomenclature are insisted upon in these requisitions. A deposit of one dollar is collected from each student to cover the cost of breakage or loss thru carelessness. This is a feature of great value, the damage being kept very small as a result. Many of the boys in both the day and evening schools have their deposit dollars returned intact.

Each group of boys is provided with a box or locker, which, in the day school, is made in the wood shop as part of the regular work. These boxes are kept in the stock room, and are equipped in advance with sufficient supplies of wire, staples, screws, etc., to cover the class of work to follow. Economy of material is insisted upon, consistent with good methods of work, and is really practiced.

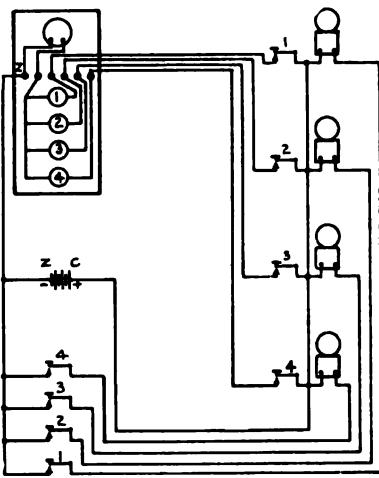


FIG. 3. RETURN-CALL ANNUNCIATOR SYSTEM. SEE ALSO FIG. 1.

Before a given wiring problem is attempted in the shop, the class is taken to a classroom, where the boys draw in notebooks the diagram of the circuit, either from the blackboard drawing of the teacher or from

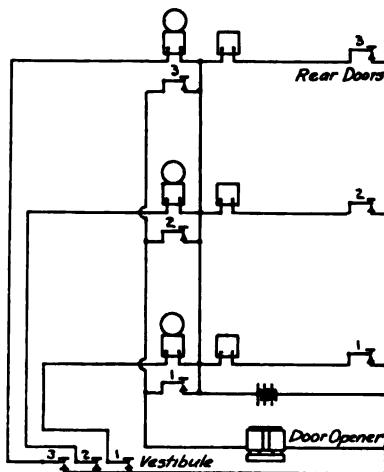
a blueprint collection of carefully selected diagrams. The object in this drawing is not the attainment of skill in draftsmanship, altho neatness is always required, but rather the complete knowledge of all parts of the diagram, which can only be obtained by its reproduction by the student. The new features of the given problem are pointed out and discussed, and any instructions are given which are required. The applications of the circuit to commercial jobs are noted, as well as any additional practical methods which would be needed in actual work, and which would not be used on the wiring frame.

FIG. 4. APARTMENT HOUSE BELL SYSTEM.

Following are examples of the diagrams used in the wiring course. Figures 3, 4, 5 and 6 illustrate the work on annunciators, bells, gas lighting, and telephones, respectively. Figures 7 and 8 are examples of electric light and motor circuits, respectively. All of these are taken from "Electrical Diagrams," compiled by the authors.

Fig. 3 is the fifteenth in the series of problems. It is the diagram given to the student for the connections of a return-call annunciator system. The completed work is shown in Fig. 1. The chief purpose of this problem is the repetition in an interesting form of two important features, viz., the wiring and operation of the annunciator itself, and the connections for furnishing means to indicate the receipt of a call, or the return-call feature. Early in the course, the boys have studied the connections of bells in simple and return-call circuits, for several classes of service, the diagrams increasing in complexity as the students have gained skill in wiring.

In a diagram previous to the one shown in Fig. 3 the annunciator has been studied in a simple circuit, and its operation in hotels, elevators, etc., has been explained. In the study of this earlier diagram,



the boys examine an annunciator in the classroom before wiring the circuit. They learn the reason for having the cores of the electro-magnets made of steel and slightly magnetised, instead of being made of soft iron as in the case of the ordinary bell. They see by experiment the necessity for the current to flow thru the coils in a certain designated direction, so that the magnetism of the cores may be increased instead of diminished by that of the current.

In the wiring of the present return-call circuit, the class learns, moreover, of the possible necessity at a future date of substituting inter-communicating telephones in place of the annunciator, and that the given arrangement of the circuit is so designed that it would then require but little change.

Fig 4, which shows an arrangement for the bell wiring of an apartment house, is given chiefly for the purpose of repetition of principles, and of practice in shopwork. It is of interest to boys because of the large numbers of apartment houses for two or more families which are being erected at this time in Philadelphia. The electro-magnetic door-opener exemplifies the labor-saving possibilities of electricity.

Much importance is attached to the proper understanding by the student of Fig. 5, which is the diagram given for gas-lighting practice. The drawings of the pendant and automatic burners show the actual apparatus reduced to their essentials. The use of the spark coil introduces the students in a practical way to the phenomenon of self-induction as it may be usefully applied. It has been found that the later and difficult study of the theory of self-induction has been much helped by the preliminary ideas which have been engendered by the wiring and study of this circuit.

TELEPHONE INSTALLATION.

Fig. 6 has been found to be a very useful diagram because of the wealth of principles which it illustrates. Fig. 2 shows the finished

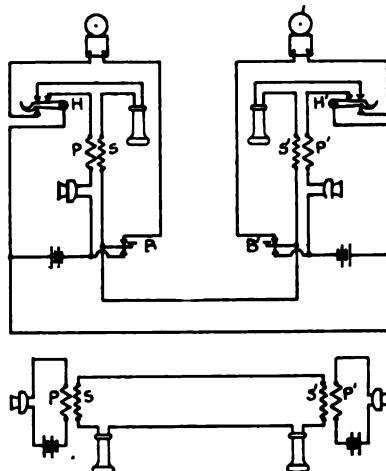


FIG. 5. GAS LIGHTING CIRCUITS.

work. Because it is given near the end of the series of problems in elementary wiring, less stress is laid in the shop on actual wiring practice, which has been amply covered in the preceding work, and more

emphasis is attached to the principles involved. The use of the telephone induction coil, or transformer, extends the ideas of self-induction derived from the spark coil of the gas-lighting circuit, to the conception of mutual induction between two coils not electrically connected together.

The boys see, moreover, how the resistance of the carbon granules in the transmitter varies with the pressure exerted on them by the diaphragm; and how the variable current thus produced flows thru the coils of the receiver, and

varies the magnetic pull on the receiver diaphragm, thus reproducing the sound waves at the ear of the listener.

The simplified diagram shown at the lower part of Fig. 6 gives the talking circuits only, and is of value to the boys in tracing out the circuit.

The wiring for telephone work is done on boards designed by F. R. Robinson, a former instructor in the Philadelphia Trades School, who has lately returned as instructor in the evening trades school. The boards, as will be seen from Fig. 2, are each equipped with receiver, transmitter, bell, push button, hook switch, and induction coil. Each

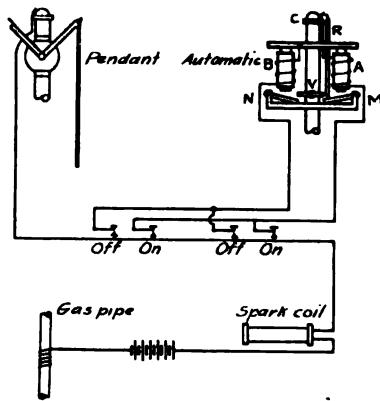


FIG. 6. TELEPHONE CIRCUIT. SEE ALSO FIG. 2.

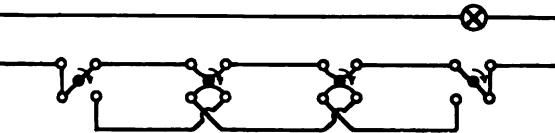


FIG. 7. ELECTRIC LIGHT CIRCUIT, FOUR-POINT CONTROL.

boy or group wires up a single board, and then the boards adjacent to each other are connected together for the talking. The latter is a feature of great interest to the boys.

In Fig. 7 is given a method of controlling an electric light circuit

from three or more points, by the use of three-way and four-way switches. This diagram, which is here given as an example of the electric light circuits, is preceded by much practice in the wiring of lamps controlled by single and double pole switches, and in lamps operated from either of two points. The present circuit is a logical extension of the latter system. As the diagram shows, an attempt is made to represent the rather complicated switches in a simple way, and yet in a manner which resembles the actual apparatus.

All of the electric light circuits are wired according to all of the commercial methods. The present diagram, therefore, like the other electric light and power circuits, is explained to be a type diagram, to be installed according to the class of work assigned, whether knob-and-tube, wooden or metal molding, or conduit. The diagram is not intended to suggest in any way the actual appearance of the finished work. Instruction as to the methods to be employed, and as to the Underwriters' rules governing them, is given in the classroom by the shop teacher preparatory to the actual shopwork. In the wiring of the building, or of model rooms or structures, the students undertake all of the work on commercial lines. In the drawing room the boys make their own plans, from which they estimate the material required and its cost, and from which they install the work.

It has been found that the use of the wiring frame for conduit work does not involve the same disadvantage which is evident on other classes of work, and which has been mentioned in the foregoing—that of the complete visibility of all parts of the work. With a short run of conduit, in which of course the wires are concealed, all of the practical methods can be utilized which are necessary with long stretches.

Fig. 8 is given as an example of the diagrams for the installation of motors. It shows the type of starting box usually employed in actual practice. The theory and the shopwork are so arranged that the shop practice in the wiring of motors is given just before the classroom work in the theory of the motor. The student's understanding of the principles involved is much assisted by his practical experience with

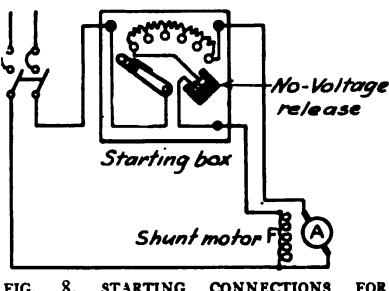


FIG. 8. STARTING CONNECTIONS FOR SHUNT MOTOR.

the actual machine. The work of installation is done according to strictly practical methods. Altho the power outlets in the shop are so arranged, for the sake of economy, that only short runs of wire are needed to put a motor into operation, yet it is insisted that the entire job of installation be undertaken on commercial lines, exactly as if it were a contract undertaken in the ordinary course of business.

OUR SCHOOLS ARE NOT FAIR TO THEMSELVES THEREFORE IN ASSUMING THAT THEY OR THE CHILD ARE WHOLLY AT FAULT. IF THE SCHOOLS NEED A BETTER CURRICULUM SO DOES THE INDUSTRIAL ESTABLISHMENT. IF THE CHILD NEEDS A MORE DEFINITE AND PURPOSEFUL MIND, MUCH MORE DOES INDUSTRY. AND WE BELIEVE ONE OF THE MOST VALUABLE PUBLIC SERVICES EDUCATORS CAN RENDER IS TO LEARN HOW TO WARN CHILDREN TO DISTINGUISH BETWEEN A 'VOCATION' AND A 'JOB.'

IT IS FUTILE TO GIVE SPECIAL TRAINING TO A CHILD FOR THE PURPOSE OF FASTENING HIM TO A MACHINE ON WHICH HE SHALL DO PURELY MECHANICAL LABOR FOR LIFE. BUSINESS SAYS 'HERE ARE THE JOBS, WHAT KIND OF CHILDREN HAVE YOU TO OFFER?' WE MUST REVERSE THE ENQUIRY AND SAY TO BUSINESS, 'HERE ARE THE CHILDREN, WHAT KIND OF INDUSTRY HAVE YOU TO OFFER?'—Owen R. Lovejoy.

THE ADMINISTRATION OF STATE AID FOR VOCATIONAL EDUCATION

WILLIAM T. BAWDEN.

THE movement for vocational education seems to have passed thru a period in which the chief concern has been the securing of desired legislation. A great deal of effort has been directed toward influencing the Congress at Washington, the state legislatures in the several states, and boards of education and other agencies in numerous cities, with the result of securing, not all the legislation that has been sought, but sufficient to afford ample opportunity for the organization of a considerable variety of schools, and for perhaps all the experimentation that the country is at present prepared to conduct and supervise adequately.

Consequently the authorities in various states and cities are now face to face with real problems of organization and administration, as distinguished from those of planning and projecting on paper for the purpose of influencing public opinion or convincing legislators.

Legislation in seven states has created groups of officials charged with the duty of interpreting and administering a body of laws dealing with vocational education, and without question a number of other states will follow with similar legislation during the next two or three years. Wisconsin is working on a plan which provides control of industrial schools or departments by board's which are nominally separate from the existing boards of education but which evidently contemplates close co-operation between existing school boards and the special boards. Connecticut has adopted a plan by which the special schools may be organized and supported by the state independently of local initiative or control; or schools may be organized and supported by local initiative, assisted by state grants. These two plans have certain other features in common with those of other states, but in the respects mentioned they are unique among the schemes which have been enacted into legislation.

On the other hand, there are five states in which the legislation has been passed on substantially the same underlying principles, so that there is considerable uniformity in the provisions of the laws, and opportunity for cooperation between those charged with the duties of administration. These five states are: Massachusetts, New York, New Jersey, Pennsylvania, and Indiana.

Foreseeing the possibility and desirability of cooperation and mutual understanding among the officials in all of the states dealing with these

problems, the National Society for the Promotion of Industrial Education, thru its secretary, Charles A. Prosser, has been conducting a series of conferences of the officials from these states for the purpose of making an intensive study of the provisions of the laws and of the problems of appropriate interpretation and effective administration. The first of these conferences was held in May, 1913, at the Goodhue estate of the Children's Aid Society, Staten Island, N. Y.; the second was held in connection with the annual convention of the National Society at Grand Rapids, Michigan, in October, 1913; the third, and most largely attended conference was held at Staten Island December 12 and 13th, 1913.

At this last conference there were 33 men present representing ten states and the Dominion of Canada. The states represented included New York, Massachusetts, Pennsylvania, Indiana, Connecticut, New Jersey, Wisconsin, Rhode Island, Missouri, and Illinois.

COMMITTEE ON NOMENCLATURE.

One of the important questions which has been before the conference is the formulation of definitions of the important words and phrases that have come into widespread use in connection with the movement for vocational education. A committee which has been at work upon this problem for some time presented a preliminary report. The conference decided, however, that it is not yet ready to announce conclusions reached, but directed the committee to continue its work and report at a later meeting. Two definitions were tentatively agreed upon:

Vocational Education. Vocational education as defined in the laws of Massachusetts, New Jersey, Pennsylvania, and Indiana, and as provided for in that of New York, is that form of education whose controlling purpose is to fit for useful and efficient service in agriculture, trades, and industries, or occupations connected with the household, and which is given to the individual who has already indicated an occupational aim in life, which aim this particular form of training is designed to meet.

Practical Arts—Industrial Arts. Practical arts, or industrial arts, is a part of general education consisting of series of activity experiences carried on thru the medium of handwork (including manual training, shopwork, drawing, school and home gardening, household arts) designed to assist the individual to an appreciation of the means and methods by which society accomplishes its work. In the later stages of this process (as the individual approaches adolescence) this work becomes prevocational education, in that it may serve to assist the individual to define a vocational purpose in life, by affording a basis for an intelligent choice thru the variety of experiences offered.

There are several important points that should be noted in connection with these attempts at definition:

1. It should not escape the notice of the reader that the definition of vocational education is a qualified definition—"as defined in the laws" of these states. No member of the conference probably would hold that the statement, without the qualifications, is a complete definition of vocational education.
2. There is no implication that other forms of vocational education, or even other kinds of school activity, are not equally valuable both to the state and to the individual child. The state simply selects certain forms of education, and proposes to aid communities which will comply with certain prescribed regulations.
3. Emphasis upon the distinction between vocational education and practical arts or manual training implies no criticism of the latter as such. The attitude of the state administration toward all forms of handwork, intelligently carried on in the schools, is entirely sympathetic and helpful. Altho the two things are distinct, there should be no antagonism between them.
4. There are the very best of reasons for limiting this kind of legislation at present. In the first place, it may be said that the primary purpose is to aid those types of educational effort which will not be attempted without such aid. Special aid for commercial education may, therefore, be omitted on the ground that it is already fairly well established. Second, the field of vocational education is so broad that it would be folly to attempt to cover it thoroly from the start. It would be impossible either to finance such an undertaking, or to find men and women to direct it. After careful deliberation certain forms of work have been selected and a beginning made. The question is not, therefore, as to whether the proposals completely meet the situation, but as to whether they are practicable, and in general likely to meet a larger need than others that might have been adopted. Third, another reason for the present neglect of commercial education in this legislation is found in the decision to make the beginning with training for productive as contrasted with distributive employments.
5. Finally, it is necessary to distinguish clearly between two types of work for women and girls as provided for in these laws: (1) Trade extension work, in which girls are trained for increased efficiency in various occupations in which they are now employed, or into which they propose to enter, and by which they expect to earn a livelihood;

and (2) Training in preparation for homemaking and motherhood, designed for girls and women however employed at present.

Another one of the difficulties confronting the committee on nomenclature was the formulation of a satisfactory definition of a skilled occupation. In view of the evolution now going on in the industrial world there are those who insist that the term "skilled occupation" is fast becoming a misnomer. It was proposed, for the purpose of discussion, that any occupation be regarded as a skilled occupation which meets these three conditions:

- (1) Provision of a living wage for the worker.
- (2) A content which offers the possibility of differences in the quality of the work turned out.
- (3) Provision for promotion, by constituting one of a series of progressive steps in the industry leading to something better.

STANDARDS AND PROCEDURE.

Another committee that is engaged in an important piece of work is the Committee on Standards and Procedure in the Inspection, Supervision, and Approval of State Aided Vocational Schools. This committee presented a preliminary report and received instructions to continue its work and report at a later meeting. The work of this committee involves a study of the methods employed in the various states in dealing with schools, the official relations maintained between state and community, methods of indicating approval of work undertaken by the community, qualifications demanded of pupils admitted to the schools, qualifications and certification of teachers, courses of study, equipment, school records, etc. When this study has been completed it will be possible for one to determine readily in what respects there is uniformity in the different states, and in what respects there is divergence in principle and practice; in what respects uniformity is desirable, or undesirable. A comparative study of the practices in the various states in dealing with any specific problem should prove of great value to the officials in any state when a question arises as to the best method of procedure.

One of the sessions of the conference was divided into two round-tables, one of which discussed topics of especial interest to officials having charge of the administration of agricultural education, and the other dealt with problems of industrial education. In the former the following topics were considered, among others:

"Relation of schools of agriculture to other agencies interested in agriculture," "The use of land in connection with schools of agriculture," "Short winter courses," "High school science and agriculture," "Courses in elementary agriculture."

The topics considered in the industrial education conference included the following: "The compulsory continuation school," "The voluntary continuation school," "The general improvement continuation school," "The trade extension continuation school." It seemed to be difficult to reach a consensus of opinion as to the proper field of effort for the continuation school, but for purposes of discussion it was proposed that continuation school work for the years 14 to 16 may legitimately include the following lines of effort:

- (1) General improvement; courses intended to contribute to the development of general intelligence, citizenship, etc.
- (2) Trade extension work; when the conditions are such that this is desirable or possible.
- (3) Vocational training for an occupation in which the pupil may not now be engaged; when it is possible to make the proposed training sufficiently intensive to accomplish the desired end.

It is not proposed that every continuation school shall necessarily cover all three of these lines of effort, but when the conditions warrant it, all of them are to be regarded as legitimate.

One session was devoted to a discussion of the problems of the business of homemaking, the possibilities of courses that might be offered in day vocational schools, continuation schools, and evening schools, the selection and training of teachers, and kindred topics.

PLANS BASED ON STUDY OF CONDITIONS.

Plans for vocational education in the typical small community of less than two thousand inhabitants served as the basis for discussion at one interesting session. Small communities were classified into three groups: (1) Communities that have a dominant industry; (2) Communities that are wholly agricultural; (3) Communities that are neither entirely industrial nor agricultural, but mixed.

It was insisted that the essential facts must be known with reference to the industries of any community before much progress can be made in the development of plans for vocational education. The futility of spending large sums of money, for example, in training boys to be

machinists in a section of the state possessing practically no machine-shops has not always been clearly seen.

Attention was called to the recently published "Industrial Directory of New York," as a method of getting at the facts with reference to the occupations carried on in individual communities. This report was prepared under the direction of John Williams, Commissioner of Labor, and published by the New York State Department of Labor, Albany. It is divided into three parts: (1) Description of cities and villages having a population of 1,000 or more, with special reference to features of importance from the standpoint of industrial organization. (2) Tables showing conditions relative to population, agriculture, banking, manufacturing, factories, factory employes, and hours of labor. (3) Register of factories, listing the name, street address, product, and number of employes of each of the large factories in the different communities of the state.

The following statements were presented as typical items of information culled from the report, and bearing on the questions under consideration: Only about five per cent of the working people in the state of New York are found in communities of less than 2,000 inhabitants. There are only 42 towns and cities in the state having a dominant industry employing 100 or more workers. There is only one *small community* in New York having woodworking as a dominant industry employing 100 or more workers.

JOINT RESOLUTION NO. 5, NOW BEFORE CONGRESS.

In discussing the topic of Federal grants for vocational education, the conference passed unanimously the following resolution:

WHEREAS, The subject of national aid for vocational education is now before Congress for consideration, and

WHEREAS, Said subject is of the gravest importance to the nation collectively and the large masses of individuals in all parts of the country, and

WHEREAS, The measure raises a wide range of questions, both as to the scope of vocational education involved, and the administration of the aid to be extended by the nation, and

WHEREAS, It is of vital importance to the success of any plan for such aid that all interests concerned shall be unified thru full knowledge of all facts bearing on the problem in hand, and thru the exercise of the highest wisdom obtainable in the formulation of a plan that may commend itself to the judgment of all the people, and

WHEREAS, This Council, composed of state officials from thirteen states on whom devolve the duty of dealing with the administration of vocational edu-

tion, is interested only in the adoption of a plan that will most assuredly and expeditiously bring about the establishment of a system of education that will stimulate our industrial life, and will give to the masses of our people greater communal efficiency and a higher individual plane of living;

THEREFORE, Be it Resolved: By this Council that it heartily approves and earnestly urges the passage of the Resolution now before Congress, as follows:

Resolved by the House of Representatives and the Senate of the United States of America, in Congress Assembled.

Section No. 1. That the President of the United States is hereby authorized to appoint a Commission of nine persons whose duty it shall be to consider the need and report a plan no later than December 1st, or as soon thereafter as possible, for national aid for vocational education.

Section No. 2. That the members of said Commission shall be paid for their actual traveling expenses and subsistence while engaged by the work of said Commission.

Section No. 3. That said Commission shall have authority to employ a secretary, and to make such investigations into local conditions in the respective States as may be necessary. The entire expense of the Commission not to exceed the sum of \$25,000.

Section No. 4. That the sum of \$25,000 be, and the same is, hereby appropriated to meet the expenses of the said Commission.

Before adjournment the members of the Conference completed arrangements for a fourth meeting at Richmond, Virginia, in connection with the annual convention of the Department of Superintendence of the National Education Association, in February, 1914.

PROBLEMS CONFRONTING THE STATE DEPARTMENTS.

It may be profitable to summarize the practical results of the conferences which have been already held by stating the more pressing problems which are now confronting the officials in the various states who are charged with the administration of the laws, as the problems have been formulated in these discussions.

Interpretation of the Laws. As has been already indicated, the most immediate need is for an understanding of the laws themselves. In addition to the committee of the conference which is at work upon an analysis of the methods of procedure in the different states, there is a committee of the National Society at work upon a digest of the laws of all the states that have thus far dealt with the subject of vocational education.

Definition of Terms. The work of the committee on nomenclature should contribute to the economy of time in future discussions.

Directing and Informing Public Opinion. This is one of the

great tasks before the representatives of the state departments. It is not now so much a question of arousing public opinion, as it is of making sure that the popular interest in these matters is intelligent and focussed upon plans that are well thought out and programs that are practicable.

Selecting, Training, and Certificating Teachers. The urgency of the need for careful study of this problem has long been recognized, and substantial steps toward its solution have been taken by the National Society. At the recent convention in Grand Rapids a committee appointed for the purpose presented a preliminary report, which is to result later in a comprehensive report on the subject, with suggestions and recommendations in detail.

Preparation of Bulletins. Any scheme of administration of vocational education, to be effective, must involve the publication of a large amount of material in the way of explanation and interpretation of the law, rules and regulations derived from the authority of the law, practical suggestions to communities desiring help, outlines of courses of study, and other helps. In some of the more important states this work alone will soon assume proportions sufficient to demand the entire time of an expert. At present it constitutes a heavy burden on the departments in all of the states.

Cooperation Between the States. The necessity for cooperation has been recognized by the appointment of a committee, to which reference has been made, to make a special study of the problems.

These conferences are among the most important meetings that are being held at the present time. The conferees are men who are charged with great responsibility and are certain to wield a great influence; the problems discussed are of vital and immediate importance to each man present, as well as to countless individuals in the several states; and, perhaps most significant of all, the attendance at the conferences is small enough to permit full and free discussion, and the sessions are long enough to insure complete mutual understanding.

EDITORIAL

TO the schoolman vocational education has come as a great opportunity, tho he does not always recognize it as such. It is a solver of knotty problems; it is the needed element to round out the public school system, yet not all schoolmen look upon it in that way. For example, there is the typical schoolman of a generation just passing out who has been too absorbed in his books to come into vital touch with life. He is conscientious in his opposition to the new movement. He cannot understand it as having any place in education. He deplores the fact that "yielding to the vociferous cry for immediate utility, the vast educational apparatus of this rich country bends itself more and more to the use of the supposed 'practical,' i. e. the bread-winning pursuits." His view of education is too narrow. Then there is the principal or superintendent who is too comfortably fixed in his position to permit of any change in his present way of doing things. He is self-centered, self-satisfied. To him vocational education is a nuisance because it forces him out of his very comfortable rut. But there is another kind of superintendent who is much more dangerous than either of these. In popular phrase, he is a politician. His essential characteristic is that he has no convictions of his own on the subject. If the people want vocational education he wants them to have it; if the people don't want it, its all the same to him. Give us the schoolman of the older type who opposes it with a reason, in preference to a superintendent of this class. Public sentiment will retire the old man with honor, and then put an up-to-date man in his place, but what can be done with a man who falls prostrate over every new idea, but doesn't care a picayune whether it is adopted or not? Finally, and by far the most numerous, are the real progressive schoolmen who see in the movement for vocational education an enlargement of the service which may be rendered by the public schools, and a solution of some problems that hitherto they have been unable to solve with the means at hand. These men love boys and girls; they believe that there is a special niche in the world for every one of them, and regard it as their greatest pleasure as well as their duty to help each boy or girl that comes under their care to find his particular niche. They realize that in the past, when a boy's niche was not somewhere along the university route, they have been

greatly handicapped in their endeavors to help him find it. To all such vocational education with its industrial, agricultural and home studies is of great help, because it multiplies opportunities many fold. Furthermore, such superintendents realize that it places the public schools in a truer relation to the people; it takes a long step toward the democratic ideal of the education of "all the children of all the people."

—C. A. BENNETT.

Interpretation of the Law Attention is given in another place to some of the problems of administration that are beginning to make themselves felt in certain states that have set up machinery for aiding communities in the support of vocational education. One of these problems, the interpretation of the law, and its exposition to the public, is likely to prove no light task. The following case may be cited as an example of the difficulties that arise. A certain city proposes to arrange continuation school classes for a group of telegraph messenger boys, grocery wagon boys, ushers from a theater, and bell-boys from a hotel. What subjects may be taught in such classes and yet meet with the approval of the inspector as coming within the meaning of "supplementary to the practical work, etc." of the occupations of these boys, and thus be eligible for state aid?

The clause in the law relating to part-time or continuation schools reads as follows:

Instruction shall be given in the trades and in industrial, agricultural, and homemaking subjects, and shall be open to pupils over fourteen years of age who are regularly and lawfully employed during part of the day in any useful employment or service, which subjects shall be supplementary to the practical work carried on in such employment or service.

It would probably be agreed without question that a continuation school class might be organized for a group of boys employed in a pottery, in which class the subjects of instruction might properly include the physics and chemistry related to the mixing, firing, and glazing of clay, etc.; industrial geography, dealing with the distribution of deposits of clay of suitable working qualities, and other materials required in the industry; and so on. The department of public instruction in the state in question has ruled, also, that the community would be justified in adding a certain amount of work intended to develop ideals of good citizenship, and the class would still be entitled to receive special state aid under the law. Similar examples might be suggested for groups of boys, or girls, employed in other industries.

Instruction Supplementary to an Unskilled Occupation.

In certain industries which might be named it is a comparatively simple matter to suggest fields of related subject matter that would afford a proper basis for the kind of school work that the law evidently contemplates. But when it comes to a consideration of the occupation of driving a grocer's delivery wagon it is not so easy to plan industrial subjects of instruction that shall be "supplementary to the practical work carried on in such employment." The technical and intellectual content of such an occupation is so meager that it is difficult to make real (not adventitious) connection with organized knowledge. It may or may not be a good thing for a boy to spend some time in one of the occupations mentioned. It may or may not be a good thing to attempt to plan courses of study that shall stimulate a boy to improve himself as a worker in such occupation. It may or may not be a good thing to try to make a boy proficient in one occupation while he is actually at work in another. But, whatever the decisions reached on these points, an examination of the situation seems to indicate that there is practically nothing that can be offered in the case referred to that would be entitled to special state aid under the law. Consider the following points:

1. It is necessary in the interpretation and exposition of the law to be guided by the specific intent and purpose of the law, rather than by a consideration of the general educational or social desirability of any given line of work which might be proposed.
2. The law provides for certain kinds of work. By omitting certain other forms of vocational education (commercial education, for example) the law seems so much the more to emphasize the fact that it has made a *selection* of lines of work to be fostered.
3. The principle seems to be clearly established of training for increased efficiency of individuals in the callings *in which they are employed*. However unsatisfying or displeasing it may be, the situation seems to demand the interpretation that the law does not contemplate the training for increased efficiency in one calling of individuals who are actually employed in another.
4. It is probably well that the law does not at present provide for the training for increased efficiency in one calling of individuals who are employed in another, for the reason that such a policy would tremendously increase the complexity of the problem and extend unduly the scope of the activities of the state department of education. It is much more reasonable to proceed on the simpler basis at first, and to take up

the greater and more complex task after the necessary skill and knowledge have been acquired and the necessary administrative machinery set up and tested. It would seem that after some understanding of the problems of, and some facility in the administration of, continuation school training in what might be called longitudinal straight lines of effort had been gained, there would be time enough to undertake the solution of the problems of "cross education."

5. Finally, the instruction that would be suitable for the 14 to 16 years old boys engaged in the miscellaneous employments in the case referred to must be classified as *prevocational work*. It is, then, simply a question as to whether the law provides state aid for prevocational work, or whether it assumes that for the present at least this must be regarded as the legitimate responsibility of the existing school system.

It is not at all unlikely that the intensive study of some of these administrative problems, compelled by the very nature of the new work, will lead to intelligent revision and practical amendment of the laws.

—WILLIAM T. BAWDEN.

To Study in Munich. By special arrangement between the city authorities of Munich, Germany, and the United States Bureau of

Education, a party of twenty-five American teachers will go to Munich in April to study in the trade continuation schools of that city. The party will sail from New York on April 7th and will spend three months in study and one month in sight-seeing, returning to New York on August 30th. This is the most remarkable opportunity ever offered to American teachers to study details of German methods of industrial education. Applications for appointment are coming into the Bureau of Education from all parts of the country. In making his selection the aim of the Commissioner of Education will doubtless be to take men who will bring back most to help in solving our own problems in this country. Among the many courses which will be open to these men will be art forging, goldsmithing, bookbinding, printing, lithography, glass painting, cabinet making, and several other trades not commonly taught in American trade schools. It is to be hoped that the school authorities in cities from which teachers are selected will realize the value of this opportunity and will pay the expenses of the teachers who go. These expenses will be chiefly for transportation, because the cost of living and the fees are very low in Munich.

OF CURRENT INTEREST

FIRST ANNUAL CONVENTION OF THE NATIONAL ASSOCIATION OF CORPORATION SCHOOLS.

An event significant in the history of industrial education in this country was the first convention of the National Association of Corporation Schools, held in Dayton, Ohio, in September. This association is made up of representatives of thirty-six corporations in twenty-one cities, including such companies as the Carnegie Steel Company, the Curtis Publishing Company, and the General Electric Company. These corporations represent over two billion dollars capital and have in their employ over 500,000 people.

The same influences that have been at work to induce public education authorities to undertake industrial training have been to a great extent operative in producing corporation schools. They have grown up in direct fulfillment of a need due to the changing conditions in industry. Some of these companies have been offering night school courses to their employes for years, others have in the last few years opened schools for day instruction of apprentices and salesmen, the workmen being paid for the time spent in school; still others have established technical schools of advanced grade in which employes may receive instruction free. Thus, not waiting for the larger public to make up its mind as to the why and how of industrial education, these large corporations have proceeded to train their employes to greater efficiency. The next step was, naturally, comparison of methods and exchange of ideas, hence the national association.

The purpose of the association is to provide a forum where corporation school officers may interchange experiences and work out new methods for instruction in their respective institutions. Another purpose is to render new corporation schools successful from the start by warning them against pitfalls into which others have fallen.

The spirit of the meeting was one of hearty good fellowship combined with definite, practical work. The good fellowship was promoted thru informal evening round tables in the officers' club of the National Cash Register Company, the host of the convention, and by two "experience meetings," one at the opening session, when each delegate was called upon to state his name, the name of his company, his office in

the company, the work he is doing, the product of his organization and in a few words his reason for attending the convention; the second at the close of the convention when each delegate told just what he had gained from the convention.

Much of the discussion of methods and experience was of such nature as to be of direct interest to teachers in public vocational schools. The convention also felt the need of knowing more about the work of the public schools in industrial directions. The desired interchange and cooperation was made possible by the presence of a dozen and more prominent educators. Lewis A. Carris of New Jersey, Dr. Lee Gallo-way, S. C. Williams, and W. H. Lough are among the educators who took part in the program. The relation of the work of corporation schools to public schools was a subject which evidently created differences of opinion. E. C. Wolf, manager of the employment and instruction department of the Curtis Publishing Company, is quoted as saying, "It is obvious that many corporations are vitally interested in the education and training of their employees; so much so that they are spending large sums of money for the establishment of corporation schools. A great deal of the work now being conducted in these schools should, we believe, be done in the public schools. What can our Association do to interest the public school authorities so that they will assume their share in this work?" Compared with this we have the conclusion expressed by T. N. Bailey Whipple, of the Westinghouse Electric and Manufacturing Company, at the closing "experience meeting." He said that the convention had convinced him of the "impossibility of ordinary schools doing the work we propose to do and the unreasonableness of the usual criticism of our schools and colleges."

Other points of view of interest to public school men are given in the following excerpts from talks given at the convention: In response to the query, "Does experience indicate that it is desirable to teach elementary mathematics in the apprentice school as an academic subject?"; the reply was made that this question was closely connected with standardization and that "if there is anything on the face of the earth for which the public schools have been criticized, it is that they are so standardized that you know at each age just where the boy will be in the book. It is so standardized that there is no life in it." T. E. Donnelly, head of the Chicago printing firm which conducts the Lakeside Press School for Apprentices, said in regard to school standards: "Of equal importance with the subjects taught is the standard of work required from the boy. I believe that the practice of our public schools

in adopting as a passing mark, 70 to 75 per cent is a grave mistake and tends to create careless and sloppy habits of mind in the pupil. Our new boys have no idea of the necessity for accuracy or the value of time. They apparently consider 'near right' as excellent and would potter along at their own sweet gait." Mr. Donnelly also made statements regarding the general prospects of vocational education that have been widely quoted. These were as follows:

Schools for the training of craftsmen, run by private corporations, are holding a critical position in the popular movement for trade and vocational education. No subject except that of scientific management and "Back-to-nature" has been discussed in our prolific press to such an extent, nor with as little knowledge and appreciation of the facts, its limitations and its actual possibilities.

The accepted conclusion is that vocational education should become an integral part of our public school system, and the popular opinion seems to be that in the near future we manufacturers and merchants are to have turned out for us from the schools a race of embryo mechanics, clerks and executives, who will settle for all time the question of competent employees. I have no fight with this dream of the schoolmaster and the professional or dilettante social reformer. I hope that in time their dream may be realized, but my practical experience with the problems of training boys for the printing trades convinces me that for the present, at least, such a program is extremely visionary, and that before this present general program of industrial education succeeds, there are years of floundering and disappointment before us. We have all made the grave miscalculation that our democratic, politic-ridden public school system is the equivalent in effectiveness to the autocratic systems of Germany.

Upon us manufacturers, and other business enterprises, who are conducting training schools at our own expense, rests the responsibility of establishing vocational education on a successful basis in this country.

A recommendation of the sub-committee on general office work also holds a suggestion for the public schools, as follows: "It is recommended that this association encourage its members and other corporations to call upon the public school systems to do more in the matter of fitting young men and women for office work," and again, "that when an office school is about to be established persons trained and experienced in teaching be employed to take charge and instruct." Those who are favoring shop men, untrained in pedagogy, as teachers for public vocational schools should carefully note that statement, elsewhere duplicated, which comes as it were from the "inside."

OTHER NOTES OF INTEREST.

While many of the papers were too technical or too special in ap-

peal to be largely quoted there were a number of points, scattered here and there, which may prove helpful to our readers. These are presented without further comment.

"Several years ago it was our custom to teach new clerks thru the medium of experienced employees. These girls were capable and knew their work, but *not* how to teach. You know, or can imagine, the faults of this plan. Insufficient instruction, individual interpretation or misinterpretation of rules, retaining of employees in one position because they knew it so well, lack of standardization and so on. The necessity for uniform instruction was forced to our attention and we decided to try a house school. Teachers—five of them—were secured and assigned to the study of various branches of our system. Certain of these branches had been placed in writing already, and, as the teachers learned, they revised and completed the written instructions. The details being performed in a uniform manner were embodied in the written manual. As regards teachers, we engage only normal college graduates. We select those with actual teaching experience. For instruction purposes we divide our employes into three groups: first, the new employes who attend school to learn the work for which they are engaged; second, the old employes who attend to perfect their knowledge of their work; third the old employes who attend to learn a new subject. This third class includes the people about ready for promotion."—George B. Everett.

"In learning his trade we want the boy not only to master the science of his craft that he may be an intelligent worker, but we also want him to develop accuracy, application, honesty of purpose, reliability, in fact all those traits that go to make up character."—T. E. Donnelly.

"I think we should not forget to make the proper training of the young men the first consideration, and the getting of the value of their services in the first year of their apprenticeship secondary. Surely the best results will come in the end by carrying out this principle."—C. A. Towsley.

"I was impressed with the urgent need of further educating the officials of the company to a keener appreciation of the whole problem of education and welfare."—C. R. Dooley.

"I was impressed with the necessity of proceeding on broader lines than that of mere profit by a united effort to prepare the youth of the country to meet the exigencies of our national life."—T. M. Ambler.

FINDING GOOD MEN FOR THE INDUSTRIES.

A paper of broad interest on the subject of the difficulty experienced in finding good men for the industries was read by F. C. Henderschott, of the New York Edison Company, and secretary of the association. Mr. Henderschott first discussed the qualities desirable in a salesman. He listed health, temperament, and intelligence as primary essentials. In connection with health he said, "No man can hope to succeed today in industrial life who does not possess health. It is perfectly possible to educate a person in ways that make for health. There are well-defined laws governing exercise, hygiene, recreation, and the many elements which enter into and have a bearing on the subject of one's health."

Of temperament he said: "Temperament cannot be taught, but the many elements of mental life can be analyzed and understood, and observance of proper relations in developing the mind is conducive to an even or rational temperament. So it is perfectly possible by means of well-chosen studies to modify temperament or to develop those desirable qualities which seem weak and to minimize the undesirable qualities which sometimes gain control. The subjects upon which one reads and the classifying of this reading so as to get proper relations, also aid materially."

Mr. Henderschott next discussed methods of selecting employes, and spoke of the pseudo-science, phrenology, and its later development, character analysis, and of the strict psychological method. He outlined the "character-analysis" method as consisting of judgment based on the shape of the head and features, on general physical type, on manner, voice, etc., and on oral and written tests made for the purpose of observing certain reactions rather than obtaining information. This method has been widely discussed in the magazines in the last few months. Summing up his own observation and opinion of the method, Mr. Henderschott said:

"Surely the new theory or science termed 'character-analysis' does not have sufficient standing to be seriously considered as a basis for determining the characteristics or ability of individuals. It is my opinion that at the present time psychology furnishes the only basis for the selection and training of salesmen that can be seriously considered."

In discussing the matter of selection by the use of psychology, Professor Munsterberg's recent investigations were referred to, and an

outline of the problem of vocational adjustment, as prepared by Professor Irwin T. Vining, was presented. The outline follows :

I. Positions to be filled.

1. An investigation of the various departments and positions in commercial, industrial and professional institutions and organizations.
2. A suggestive outline of the personal qualifications and the training best suited to the demands of each department by expert managers and successful representatives in the various fields of endeavor.

II. The man. His ability to fulfill the requirements of the position.

1. An investigation of the types, tendencies and natural qualifications of men.
2. An appreciation of the mental, moral, social and physical qualifications of individual men and their adaptability to meet all demands.

III. The means. Institutional training and guidance—fitting the man to the position.

1. A survey of existing vocational institutions.
2. The planning and establishment of highly efficient vocational systems and institutions.

On the question of education for industrial life the speaker said:

"In framing courses for schools whose purpose is to educate students or employes along industrial lines, it would seem desirable that the scope should be broad. * * * *

It will, however, not always be possible to include general education in the industrial school curriculum, but it is always possible to gather a carefully selected school library and encourage employes and students to familiarize themselves with the contents of these books. It has been estimated that not over one hundred volumes are necessary to fully equip a company school library and that four hours of reading a week for one year will enable any employe to read all the volumes in the library, and a little additional time will enable him to familiarize himself in a general way with the entire history of civilization. First he should study the earliest records, then classify his study under the divisions of religion, government, war, art, industry, law, philosophy, and discovery, selecting such authors as are considered authorities on the various divisions enumerated. Thus the study can be brought down to the present time in proper chronological arrangement.

It is admitted that industrial education will not produce an equal degree of efficiency among all employes. The relation will probably not materially differ from that found in the older established institutions of learning. The company school, however, has been sufficiently tried as

a method of increasing efficiency to warrant its continuance as an industrial factor.

Granting that we cannot raise every employe to the highest plane of individual efficiency the fact remains that all or nearly all can be helped and improved."

SCHOOL OF THE PACKARD MOTOR CAR COMPANY.

The school maintained by the Packard Motor Car Company, of Detroit, was described at the convention in a very interesting way. The following points from that description will no doubt prove of general interest:

The Packard Company after considerable investigation, during the course of which it discovered many differences of opinion among the best educators as to the correct methods in training for industry, decided that for the present a factory school was best for its needs. According to the plan of the school established the apprentices spend a certain number of hours in the lecture room each week, being graded according to previous schooling. They receive, also, special instruction in the shops.

The courses are from three to four years' duration and the compensation is fourteen cents an hour to begin with and increase two cents an hour semi-annually until the course is completed. Any boy who has the equivalent of an eighth grade education is eligible to apprenticeship, altho the company prefers boys who have had one or more years in the high school. The boys must be at least seventeen years old and must be perfectly sound physically and mentally. Every boy is given a trial period of two months. If, during this time he has not shown an aptitude for the work, he is either dropped or transferred to another trade.

For the regular apprentices the shop training is divided into six-month periods, starting on the drilling machines. The apprentice is advanced from one machine to another and is given a final six-months' review of all of them. When starting on a machine the apprentice is placed in charge of an instructor who devotes his entire time and attention to instructing new apprentices on that particular type of machine. The instructor has only six boys in charge and his duty is to instruct them in all operations of the machines and to see that the proper amount of work is gotten off the machines. By this instruction in small groups the Company makes sure that the boys are not neglected, that the desired

product of the machines is secured, and that the tools and machines are not misused. The boys are kept under the special instructor until entirely familiar with the machine and are then passed along to the regular department foremen to finish the six months due on that type of machine.

It is the desire of the Packard management that all of its foremen and superintendents be men who are trained in its own factory, men who come up from the ranks. With this idea in view the Company has established a special student's course and only such young men as are graduates of technical schools or young men who show exceptional ability in the regular apprenticeship course are eligible to enter this special course. This is a two-year course and the students are required to spend ten weeks in each of the following departments: drilling, milling, lathe, screw-machine, gear-cutting, tool, assembly, grinding, foundry, and tool designing. It is from among these men that the Company hopes to choose some of its future executives. These men will also be used in connection with the factory school as instructors.

NATIONAL CASH REGISTER COMPANY SCHOOLS.

The delegates to the convention especially enjoyed the opportunity to see the plant and schools of the National Cash Register Company. The meetings of the convention were held in the Hall of Industrial Education, a building belonging to the Company and used for school and meeting purposes. The National Cash Register Company was one of the pioneers in the work of educating its employes, its first school having been organized in 1887. At the present time classes are maintained for employes in every department of the business and for people in the neighborhood of the factories. Schools of salesmanship are also maintained in many foreign countries.

Sixteen types of school work are conducted in Dayton by the Company, including schools of selling, advertising, office work, health, invention, purchasing, officers, patents, and schools for apprentices and evening schools. Idle boys and girls of the neighborhood are brought into the schools and are taught gardening, manual training, cooking, and sewing.

The basic principle of the instruction in all the Company schools is that training thru the eye is the most effective form of training. Charts, stereopticon, motion pictures, chalk talks, pictures showing by

contrast the advantage of new methods over old, the use of color in pictures and slides, all are part of the "teaching thru the eye" plan.

Another feature of the educational work is the means taken to encourage self-education in the employes. They are led thru reading, observing, listening, and discussing, to think for themselves and to desire still greater improvement. Reading rooms, provided with the current periodicals and newspapers, and a library of 3000 volumes are maintained in connection with the schools. Books, which discuss some branch of the Company's work are often bought in quantities and distributed among the employes. Magazines containing articles of special interest to the business are circulated in the department which can get the most out of them. The Company also subscribes for magazines for individual employes for home use.

On the listening side of self-education, the employes are given frequent opportunities to hear talks by prominent people who have achieved distinction in some particular field of endeavor. These people are brought to Dayton by the Company. Observation is encouraged by means of educational trips to other cities and plants, trips to world's fairs, and thru exhibits, experiments, and demonstrations.

Free discussion is encouraged at the Officers' Club where a noon-day luncheon is served each day to officers, heads of departments, and other men in responsible positions. In addition to this daily opportunity for free discussion, weekly and sometimes daily get-together meetings are held in Company offices or agent's headquarters. Members of the selling force, especially, are encouraged in the interchange of ideas.

Still another stimulus to self-education are the yearly prize-offers for best suggestions as to possible improvements. In this connection each man is urged to make complaints regarding anything which he thinks is wrong. "The intrinsic value of the prizes is worth while, and of still greater value is the knowledge on the part of each employe that in proportion to his capabilities, he has a voice in the administration of the Company's affairs. He also knows that his ability is brought to the attention of those who are looking for people of his caliber to fill more important positions. This is the greatest incentive that has been found to get employes to think."

It is not possible here to give details of the various courses, but it remains to be said that the National Cash Register Schools are noted for a fine spirit of cooperation and enthusiasm. This was much commented upon by those attending the convention.

CONFERENCES IN THE STATE OF NEW YORK.

A noteworthy activity of the Division of Vocational Schools of the New York State Education Department is the arrangement and successful conduct of frequent conferences on vocational education. L. A. Wilson, specialist in industrial education in the state department, is in general charge of the conference work.

On January 10th a conference was held at Elmira, to which were invited all teachers in the state who were interested in vocational education. Exhibits were arranged for the conference and the local vocational schools were open to the visitors the day preceding.

The program was opened with a paper by Mr. Wilson on "The Place and Purpose of the General Industrial School." This was followed by a number of papers dealing with methods, as follows: "Methods of Teaching Correlated Subjects," by G. G. Andrews of Freeville; "Methods of Teaching Homemaking," by Mildred P. Crandell, of Waverly; "Correlation of Shop Mathematics," by Mary W. Muldoon, Waverly; "Correlation of Mechanical Drawing," by L. H. Beach, director of industrial education, Waverly; and "Products of Vocational School, Kinds and Disposals," by M. F. Persons, Elmira.

An interesting variation of the regular program was a period devoted to "vocational kinks" or special devices for the shop and classroom. All attending were invited to contribute to the discussion.

A conference of the Western New York Vocational Teachers Association was held in Buffalo on January 16th and 17th. A banquet followed by two addresses occupied the first evening of this conference. F. H. Wing was toastmaster. Warren W. Zurbrick and A. D. Dean were the speakers, Mr. Zurbrick's topic being "What Buffalo is Doing in Vocational Guidance," and Mr. Dean's topic being "Where Do We Come Out?"

Saturday's program included a general session and four section meetings. At the general session the following speakers were heard: L. A. Wilson, subject, "Vocational Instruction and What it Offers to the Pupil at the Present Time;" Arthur Hurrell, subject, "Unit Courses in Evening Schools;" and V. A. Bird, who presented "Psychological Methods for the School Shop." The sectional meetings were arranged for four groups of teachers; teachers of academic subjects in vocational schools, vocational and technical high school shopwork teachers, manual training teachers, and home economics teachers. The papers and outlines given in these section meetings were decidedly practical

and intimately connected with the problems of the various classes of teachers concerned. Each paper was followed by a free exchange of ideas.

Conferences such as these two winter meetings cannot fail to add to the efficiency of the individual teacher, to develop a fine spirit of cooperative effort, and to insure vitality and progress in the work of vocational education.

VOCATIONAL WORK THRU THE LIBRARY.

In view of the discussion of vocational guidance at the recent meeting of the Massachusetts Library Club, the work of one of Boston's special libraries in this direction may be of interest.

The public reference library conducted by the Women's Educational and Industrial Union is devoted to women's work and a considerable part of the material relates to vocational education and guidance and institutions offering special training for non-teaching professions. Current reports and catalogs of schools and colleges thruout the country giving vocational courses are kept in the library and may be consulted by any one. A person interested in social service, for instance, will find there the circulars of the different schools for social service in the United States and also books and periodical articles describing the opportunities for women in this field.

So many requests for information of this sort have been received that suggestive reading lists (ten to twenty titles) have been prepared on a number of occupations for women, as agriculture, chemistry, interior decorating, and institutional management. These are sent to deans of women's colleges, vocational counselors and librarians who are interested in the subject.

Most of the references relate to college and business women; some of them, however, are intended for the high school and grammar school graduate and part of the vocational material in the library is of interest to the younger girl.

The Union's vocational guidance work is conducted chiefly thru the Appointment Bureau. The library supplements the work of the bureau by collecting material for its use and preparing references on vocational subjects. Some direct vocational advising is, however, performed by the library. Many requests are received, either in person or by letter, for information about the requirements for some special line of work, the preparation needed, and schools that offer such training. "What

are the necessary qualifications for a children's librarian?", "Where can I learn landscape gardening?", "How can I prepare myself for settlement work?" are illustrations of requests received.

Another phase of the work is presented in the "Notes on women's vocations" which is one of the features of the Union house organ. These include references to new lines of work for women, openings in the Government service, civil service examinations and notices of current books and periodical articles on vocational subjects.

In addition to the reference lists above mentioned, several special studies on vocational work with women have been prepared. A survey of the opportunities in eastern Massachusetts for professional training for women was made for the Association of Collegiate Alumnae and is embodied in the recently published directory of that organization on "Vocational Training." A study of vocational guidance for college women has just been completed. This includes organizations engaged in the work, collegiate appointment bureaus, work of the Association of Collegiate Alumnae and its branches, and college publications dealing with the subject.—ETHEL M. JOHNSON.

THE UNITED TYPOTHETAE AND THE APPRENTICE PROBLEM.

The United Typothetae has had a committee at work the past year studying the problems in connection with the training of apprentices and conditions of employment. This committee made its report during the New Orleans convention in October. The committee made certain recommendations outlining a policy of procedure, which the United Typothetae adopted and made provision for carrying into effect. The points in these recommendations of general interest are the following:

1. The appointment of a permanent committee on apprentices.
2. An annual appropriation of five thousand dollars for the use of the said committee.
3. The appointment of a national apprentice director.
4. The appointment of local apprenticeship committees.
5. The appointment of local apprentice directors or deputies.
6. The establishment of individual shop-schools wherever possible.
7. The establishment of cooperative or local Typothetae shop-schools wherever possible.
8. The establishment of an "apprentice department" in all composing rooms.
9. Compilation of a U. T. A. course of instruction for all shop-

schools and a modification of the same for the "apprentice department" of composing rooms.

10. A correspondence course for present apprentice workmen.
11. Establishment of lectures to local apprentices.

Other recommendations deal with indentures, agreements, wage-scales, registration, etc.

In commenting on the adoption of these recommendations the *Apprenticeship Bulletin* says: "It will be readily understood that the inauguration of this program is the longest step forward yet taken in this country looking to the proper training of apprentices in an important industry. Its peculiar significance, as a phase of the prevailing agitation for industrial education, lies in the fact that a large body of employers, thru their national organization, have recognized their responsibility in training the young men whom they take into their employ."



In Rochester, New York, a beginning has been made in vocational guidance, altho a bureau has not yet been officially created. R. C. Koepke has been conducting investigations of the industries of the city, three such surveys, the woodworking, machine and metal industries, and the clothing industry having already been completed, and a survey of telephone operating being under way. The Chamber of Commerce is cooperating with the Board of Education, the surveys in question having been managed by the Chamber of Commerce.

The teachers in all the grammar schools in the city have voluntarily offered to act as vocational counselors. The results of the surveys will be published in booklet form and placed in the hands of the vocational counselors, parents, and pupils. Talks will also be given in the Recreation Centers to parents regarding the opportunities in the various trades in Rochester.

Another feature of the guidance work being carried on is the follow-up of all boys and girls who have left the trade and vocational schools. Information is secured as to the positions held since leaving school, the pay, and length of service.

FOREIGN NOTES

H. WILLIAMS SMITH.

During the year 1913 an extension of the School of Agriculture was begun at Cambridge, which will almost double the accommodation of this building, completed so recently as 1910. A second farm has also been acquired by the University for the purposes of the Plant Breeding Institute. The University of Oxford is adding to its School of Rural Economy. Part of the new biological department of the Imperial College of Science and Technology has been set apart for the purpose of a research institute in plant physiology. The University of Bristol has acquired a site for the new research institute for fruit-growing, and considerable progress with the building of a laboratory and cider house has been made. The Universities of Manchester and Birmingham have adapted existing buildings for work in agricultural zoology. Structural alterations have also been made by the Councils of the Colleges of Aberystwyth and Bangor in preparation for the additional work undertaken by their agricultural departments. Oh, yes, the English Universities are condescending to take a hand in the game. They are beginning to realize that the etymology of their cognomen needs attention, that "University" strictly means "the whole of anything," education, to-wit.

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The London County Council will award in 1914 about 300 trade scholarships for girls. A maintenance grant of £8 for the first year, and £12 for the second year, together with free tuition, accompanies each scholarship. The trades for which training is provided are: dress-making, trade embroidery, ladies' tailoring, waistcoat making, upholstering, millinery, corset and lingerie making, cookery, domestic science, laundry work, and photography. The candidates are required to take an examination in the following subjects: (a) arithmetic (consisting of common-sense problems), (b) English. (The paper will contain a choice of questions to test the intelligence and attainments of candidates.) (c) nature and object drawing, (d) needlework, (not for all candidates). Candidates may compete for any kind or for all kinds of scholarships. Each candidate for a needle-trade scholarship must submit specimens of work, viz: (a) a garment cut out, pieced and worked by herself, (the seams and hems may be worked by machine if preferred). (b) trace drawings, which must be unmounted and not larger than 15 by 11 inches. The successful examinees are interviewed and the final selection is made after these interviews. To take up a scholarship the girls must be less than 16 and not less than 14 years of age, and no candidate is eligible whose parents earn more than £160 a year. All selected candidates have to be medically examined.

REVIEWS

Vocations for Girls, E. W. Weaver, The A. S. Barnes Company, 5x7½ inches; 200 pages; price 75 cents.

This book of handy size is intended to be placed in the hands of girls for private or class reading as a means of vocational guidance. It is written in an easy style which will prove acceptable to youthful readers and still does not detract from its interest to adults.

The first thirteen chapters are devoted to various phases of the work of young women in general and contain much wholesome advice on such topics as preparation, changing about, matters of thrift, getting along and broadening out.

The remainder of the book is devoted to a discussion of the various occupations open to women, giving information as to opportunities for advancement, average salary scales, conditions, and other details. Most of these chapters as well as the previous ones of a more general nature are supplemented with references and a list of topics for practical studies and self-analysis.

The spirit of the book is at the same time truthful and cheerful. The emphasis is placed on the necessity for careful preparation, the formation of a strong character, and the cheerful devotion to duty as a means to ultimate success and contentment.

The author, who is well known for his work in vocational guidance in New York City and Buffalo, has performed a real and lasting service in thus preparing a pioneer text of such high quality for the work in counseling for girls.

—V. E. W.

Textiles. Mary Schenck Woolman and Ellen Beers McGowan, The Macmillan Company, 7½x5½ inches; 428 pages; price \$2.00.

This is a book that will be warmly welcomed by all teachers who have to do with the teaching of facts about textiles either as an adjunct to domestic art or in connection with the textile industry. It is written with the needs of the average consumer in mind, also. The many years' experience of the authors as teachers of textiles in Teachers' College, Columbia University, lends the book authority and assured reliability. The treatment is detailed and comprehensive and the book is fully illustrated and well printed.

A brief analysis will show the value of the work better than a detailed description. The first chapter is an historical sketch of the textile industries, then follow chapters describing spinning, hand weaving, power weaving, and raw materials; then are given chapters on each of the fibers with processes of manufacture; next come chapters on the consumer's judgment of textiles, on microscopic study of textile fibers, on chemical study of textile fibers, and one on dyeing textile fibers. The final four chapters are devoted to laundry notes, hygiene of clothing, economic and social aspects, and clothing budgets. A bibliography, glossary, and index add still greater value to the contents.

Farm Boys and Girls, William A. McKeever, The Macmillan Company, 5½x7¾ inches; 326 pages; price \$1.50.

In "Farm Boys and Girls", Professor McKeever has produced a work that will be of as great a service to parents, teachers, and rural life workers, as is his "Training the Boy" to city and town people of the same class. Every phase of rural and farm home life in which the boys and girls participate is treated in this book; the rural home and character development, the country mother and the relation of her welfare to that of her children, the home itself, reading in the home, the work of the farm children, their recreation, why the girl leaves the farm, all are presented in a clear, straightforward, convincing way that should do much to wake up the farmer to his responsibilities and possibilities as the father of children. With keen insight, and unerring aim the author probes the matter of why boys and girls leave the farm and finds that the cause lies all too often in the neglect of wife and children induced in the farmer by his overweening desire to get ahead financially. Fortunately, Professor McKeever is in every sense a constructive critic, and for every error he points out he has a practical, simple remedy.

Certain chapters deal directly with vocational training, such as "The Farm Boy's Choice of a Vocation" and the "Farm Girl's Preparation for a Vocation", "The Transformation of the Rural School", and many subheads in other chapters; but the teacher who expects to devote his service to rural school work in any capacity, or the leader in rural betterment work, cannot afford to miss any chapter in this book, so packed is it with sound common sense, enthusiasm for country life at its best, and high faith in the farm boys and girls, themselves. The author reveals a wonderfully deep and sympathetic understanding of human nature, only equalled by his knowledge of sociology and economics. The truths of these latter subjects are submitted in such simple language and so intermingled with talk of everyday affairs that many readers will be entirely unaware that they are reading a work touching on either abstruse topic.

A book like this calls insistently for quotation, but we can only suggest its virility and optimism by giving the concluding paragraph:

"—The author can only express again his belief that no past age ever held out such inspiring hope and such splendid encouragement to the many parents who appreciate the needs of intelligent care and training for their children. And because of the natural advantages of the surroundings, country parents have the greatest justification of all for being enthusiastic over the outlook. Now, let them go patiently and reverently at the work of bringing up for the service of the world a magnificent race of men and women—men who have brain and brawn and moral courage and religious devotion; women who have a profound sense of maternal responsibility, an inspiring superiority over the perplexing duties of the household, a deep and far-reaching social sympathy, and such a poise and sublimity of thought as to reveal the divinity inherent in their characters. For lo! In the hidden depths of the natures of the common boys and girls there lie slumbering these splendid possibilities!"

—V. E. WITHEY.

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help to produce a kind of super-errand-boy, who will, perhaps, ("Aye, there's the rub!") be vastly above running errands.

The masts are just being erected on the roof of the new school which the Hull Education Committee is establishing for the technical instruction of fishermen. The school is the "last word" in every way, but its roof will be its most striking feature, for it is constructed exactly like the deck of the most modern type of steam trawler, even to the bridge, and all the paraphernalia usually found on a sea-going vessel of this class. This great development has been evolved from a modest little school conducted in three rooms over a small shop.

The London County Council will award in 1914 about 300 trade scholarships for girls. A maintenance grant of £8 for the first year, and £12 for the second year, together with free tuition, accompanies each scholarship. The trades for which training is provided are: dressmaking, trade embroidery, ladies' tailoring, waistcoat making, upholstering, millinery, corset and lingerie making, cookery, domestic science, laundry work, and photography. The candidates are required to take an examination in the following subjects: (a) arithmetic (consisting of common-sense problems), (b) English. (The paper will contain a choice of questions to test the intelligence and attainments of candidates.) (c) nature and object drawing, (d) needlework, (not for all candidates). Candidates may compete for any kind or for all kinds of scholarships. Each candidate for a needle-trade scholarship must submit specimens of work, viz: (a) a garment cut out, pieced and worked by herself, (the seams and hems may be worked by machine if preferred). (b) trace drawings, which must be unmounted and not larger than 15 by 11 inches. The successful examinees are interviewed and the final selection is made after these interviews. To take up a scholarship the girls must be less than 16 and not less than 14 years of age, and no candidate is eligible whose parents earn more than £160 a year. All selected candidates have to be medically examined.

REVIEWS

Vocations for Girls, E. W. Weaver, The A. S. Barnes Company, 5x7½ inches; 200 pages; price 75 cents.

This book of handy size is intended to be placed in the hands of girls for private or class reading as a means of vocational guidance. It is written in an easy style which will prove acceptable to youthful readers and still does not detract from its interest to adults.

The first thirteen chapters are devoted to various phases of the work of young women in general and contain much wholesome advice on such topics as preparation, changing about, matters of thrift, getting along and broadening out.

The remainder of the book is devoted to a discussion of the various occupations open to women, giving information as to opportunities for advancement, average salary scales, conditions, and other details. Most of these chapters as well as the previous ones of a more general nature are supplemented with references and a list of topics for practical studies and self-analysis.

The spirit of the book is at the same time truthful and cheerful. The emphasis is placed on the necessity for careful preparation, the formation of a strong character, and the cheerful devotion to duty as a means to ultimate success and contentment.

The author, who is well known for his work in vocational guidance in New York City and Buffalo, has performed a real and lasting service in thus preparing a pioneer text of such high quality for the work in counseling for girls.

—V. E. W.

Textiles. Mary Schenck Woolman and Ellen Beers McGowan, The Macmillan Company, 7½x5½ inches; 428 pages; price \$2.00.

This is a book that will be warmly welcomed by all teachers who have to do with the teaching of facts about textiles either as an adjunct to domestic art or in connection with the textile industry. It is written with the needs of the average consumer in mind, also. The many years' experience of the authors as teachers of textiles in Teachers' College, Columbia University, lends the book authority and assured reliability. The treatment is detailed and comprehensive and the book is fully illustrated and well printed.

A brief analysis will show the value of the work better than a detailed description. The first chapter is an historical sketch of the textile industries, then follow chapters describing spinning, hand weaving, power weaving, and raw materials; then are given chapters on each of the fibers with processes of manufacture; next come chapters on the consumer's judgment of textiles, on microscopic study of textile fibers, on chemical study of textile fibers, and one on dyeing textile fibers. The final four chapters are devoted to laundry notes, hygiene of clothing, economic and social aspects, and clothing budgets. A bibliography, glossary, and index add still greater value to the contents.

Farm Boys and Girls, William A. McKeever, The Macmillan Company, 5½x7¾ inches; 326 pages; price \$1.50.

In "Farm Boys and Girls", Professor McKeever has produced a work that will be of as great a service to parents, teachers, and rural life workers, as is his "Training the Boy" to city and town people of the same class. Every phase of rural and farm home life in which the boys and girls participate is treated in this book; the rural home and character development, the country mother and the relation of her welfare to that of her children, the home itself, reading in the home, the work of the farm children, their recreation, why the girl leaves the farm, all are presented in a clear, straightforward, convincing way that should do much to wake up the farmer to his responsibilities and possibilities as the father of children. With keen insight, and unerring aim the author probes the matter of why boys and girls leave the farm and finds that the cause lies all too often in the neglect of wife and children induced in the farmer by his overweening desire to get ahead financially. Fortunately, Professor McKeever is in every sense a constructive critic, and for every error he points out he has a practical, simple remedy.

Certain chapters deal directly with vocational training, such as "The Farm Boy's Choice of a Vocation" and the "Farm Girl's Preparation for a Vocation", "The Transformation of the Rural School", and many subheads in other chapters; but the teacher who expects to devote his service to rural school work in any capacity, or the leader in rural betterment work, cannot afford to miss any chapter in this book, so packed is it with sound common sense, enthusiasm for country life at its best, and high faith in the farm boys and girls, themselves. The author reveals a wonderfully deep and sympathetic understanding of human nature, only equalled by his knowledge of sociology and economics. The truths of these latter subjects are submitted in such simple language and so intermingled with talk of everyday affairs that many readers will be entirely unaware that they are reading a work touching on either abstruse topic.

A book like this calls insistently for quotation, but we can only suggest its virility and optimism by giving the concluding paragraph:

"—The author can only express again his belief that no past age ever held out such inspiring hope and such splendid encouragement to the many parents who appreciate the needs of intelligent care and training for their children. And because of the natural advantages of the surroundings, country parents have the greatest justification of all for being enthusiastic over the outlook. Now, let them go patiently and reverently at the work of bringing up for the service of the world a magnificent race of men and women—men who have brain and brawn and moral courage and religious devotion; women who have a profound sense of maternal responsibility, an inspiring superiority over the perplexing duties of the household, a deep and far-reaching social sympathy, and such a poise and sublimity of thought as to reveal the divinity inherent in their characters. For lo! In the hidden depths of the natures of the common boys and girls there lie slumbering these splendid possibilities!"

—V. E. WITHEY.

Agricultural Project Study. Information and suggestions for school officers and instructors as to courses and methods of agricultural project study approvable for state aid in Massachusetts. Bulletin No. 4—1912, issued by the State Board of Education, Ford Building, Boston, Mass.

Bulletin No. 53, Department of Labor, Albany, N. Y. The State of Employment, Industrial Relations in New York, Court Decisions, Statistical Tablets, etc. Edited by Leonard W. Hatch, Chief Statistician.

The Social Survey. Papers by Paul U. Kellogg, Shelby M. Harrison, George T. Palmer, Pauline Goldmark, Robert E. Chaddock. Reprinted from the Proceedings of the Academy of Political Science, Vol. II, No. 4, July, 1912, by the Department of Surveys and Exhibits, Russell Sage Foundation, 105 East 22nd Street, New York.

Handbook of Federal Statistics of Children. Bulletin No. 5 of the Children's Bureau, U. S. Department of Labor, Washington, D. C. Gives the number of children in the United States with their sex, age, race, nativity, parentage and geographic distribution.

Nature and Industry Readers. Three books by Elizabeth V. Brown. Published by World Book Co., 1913, Yonkers-on-Hudson, N. Y. One of these books, "When the World was Young," puts into story form for young children a great deal of information concerning the life and industries of primitive peoples. First is the "quest for food," then primitive dwellings, "queer clothes," work-baskets, etc.

What Social Workers Should Know About Their Own Communities. By Margaret F. Byington. Published by the Charity Organization Department of the Russell Sage Foundation, 105 East 22nd Street, New York.

The New Bedford, Mass., Independent Industrial School. Report of the Board of Trustees for the Year 1911-12.

Workmen's Compensation Act. Text of bill proposed, and report of the Committee of the Manufacturers' Association of Connecticut. Published by the Committee, Henry B. Sargent, W. R. Webster and Howell Cheney.

Industrial Training and Technical Education. Advance copy of Part I of the Report of the Royal Commission of Canada, of which Dr. James W. Robertson was chairman. Ottawa.

The Industrial Museum, Library and Exhibits of the Bureau of Education, Manila, Philippine Islands. Bulletin No. 46, 1912.

Vocational Education Legislation of 1912-1913. By C. A. Prosser. Reprint of article in the May number of the American Political Science Review.

Vocational Education. By Nicholas Murray Butler, president of Columbia University. A stenographic report of an address delivered in Chicago in December, 1912, and published by the Chicago Commercial Club.

VOCATIONAL EDUCATION

MAY, 1914

SCHOOL AND EMPLOYMENT. ✓

MEYER BLOOMFIELD.

THIS discussion will attempt to suggest an outline for an American school policy with respect to the relation of our schools to the start in life of their children, profiting so far as possible by the lessons and cautions of foreign experience. In the absence thus far in this country of considerable experience in connecting schools with employment and in organizing safeguards for the start in life, it is of course obvious that little more than a tentative draft of a policy and of the possible next-steps can be ventured; yet for all that actual practice may suggest in the way of detail, machinery, and administration, there are certain principles, fundamental to any service connected with the start in life. Experienced social workers, educators who make their school work function as social service, and efficient workers connected with the movements for vocational guidance and education are in no doubt as to the need of taking the next steps and as to what at least one or two of these steps should be.

To competent students of the problems considered in this study, it is clear that a thoro scheme of vocational advising and of training necessarily involves provisions for placement, for supervision, and for methods of organized study which are calculated to yield material for enlightening public opinion and for legislative action. Vocational service of any kind is so large an undertaking that specialized phases of it may well occupy the whole time of any organization, but it is submitted that any scheme of vocational service which does not in some way

come in direct contact with the problems connected with the actual start in life of youth is in danger of finding itself an unreal undertaking, busied with lifeless abstractions regarding shadowy beings, instead of men, women, and children.

Participation, then, is here advocated as fundamental to any successful scheme of vocational service; such participation as we know to be the best feature of the neighborhood worker's activities. Contact with the practical world insures that salutary concreteness of criticism and appraisal which sound growth requires. Some personal touch with boys and girls and men and women, and the trying out of one's theories and capacities as a vocational counselor in real experience, are the key to successful vocational assistance.

KNOWLEDGE OF CONDITIONS, AND STRUGGLE FOR AN IDEAL.

Workers in the field of vocational education and guidance, therefore, whether they be in vocational schools, labor exchanges, advisory committees, or vocational guidance enterprises, are expected to face their task from two standpoints when helping young people to a start in life. They are forced, necessarily, to deal with the working world as they find it, and they are equally obligated to illumine their work with an ideal of what ought to be the conditions. A knowledge of existing conditions is the foundation of the daily, personal service, which a vocational agency is called upon to render; but without the corrective of a social vision any vocational scheme, whatever may be its immediate practical benefits, can hardly be regarded as an important instrument of human conservation. The knowledge here suggested cannot be based on mere fragmentary accumulation of many kinds of occupational details, gathered in the course of visits to work places; it must be knowledge founded on organized data gathered by the specialist trained in the technic of vocational investigation. The vision and ideal here suggested must not be a vague and futile longing for something different, but an intelligent purpose founded on clear sight of a goal, and expressing itself in aggressive and telling ways.

It is now trite to say that school life is sharply ended at the option of children who go to work as soon as the law will let them. Likewise is it now a truism that this leaving-time has been mostly neglected and the children exposed to peculiar dangers. The child's entry into working life has not been on the whole looked upon as a special concern of

the school. Individual teachers and school principals have always, doubtless, taken an interest in individual children, or even in entire classes. But, outside a few cities in this country, one will not find any systematic and worth-while effort to compile and interpret the work-histories of children who have left school for employment: and few indeed are the agencies which concern themselves with the transition problems of youth in the abyss between school and work. There are, to be sure, the vocational schools and vocational departments of our high schools, which, as a matter of course, are more or less active in securing employment for those whom they have trained. Not many a school has gone beyond the mere placement stage for its pupils, and not many have scrutinized the occupations sufficiently to influence their own curriculum. But if the vocational schools, close to work conditions tho they presumably are, and more pressingly required than other types of schools to concern themselves with the start in life, have, on the whole, so little organized the machinery and formulated the principles of service in helping young people during the transition period, what shall we say as to the public schools generally?

The children who leave the schools of our country, whether they graduate or drop out, are obliged to find themselves, somehow or other, as workers. The schools have done little, specifically, to point the way. In a sense, the schools deserve much praise for the little they have been doing toward a vocational start in life; for with no resources, time, or preparation, their efforts in this difficult field could only have been absurdly inadequate and possibly harmful. Several causes account for the failure on the part of the public to support the schools in organizing the much-needed start in life service. In the first place, the schools have been kept so busy with what is called preparing for life, that the teachers have been given no leisure for more active contact with that life. On the whole, the American public has not called too vigorously for such vital participation on the part of the teachers. In fact, the situation has not been greatly encouraging to that growing number of teachers who are disheartened over much of the present lifeless routine of fitting for life. The community has been, on the whole, too little alive to the moral hazards and the hard perplexities which the young job-seeker experiences. Finally, a persistent idea regards work-seeking and employment as a private concern of the individual, and the employment bargain and all that follows it as nothing more than the personal affair of the bargaining parties.

INCREASING INTEREST IN YOUTHFUL WORKERS.

Now our best practice and belief continually belie this obsolete notion. That society feels its vital stake in all that attaches to the employment contract, particularly of minors, is abundantly demonstrated by the great variety of protective measures going forward such as school working certificates, health and factory inspection, licensing rules for employment agencies, and the increasing number of child labor laws, and of state-aided vocational training opportunities.

The English system of juvenile advisory committees rests on a clear recognition of society's duty to protect and befriend its young work beginners. The increasing importance of school people in the work of these committees is suggestive of the place which the schools will occupy in the near future as guardians of the adolescent.

From two directions the schools are compelled more and more to consider their relations to the start in vocation. On the one hand, the movements for vocational training and guidance bring the school face to face with the occupational world; on the other, the organization of the labor market thru public employment offices, a field in which we have been thus far lamentably backward, will oblige the schools to work out a policy with respect to these agencies. As yet few states maintain public employment offices; but, doubtless, there will be many more, as the wastefulness of present work-seeking methods is realized. Nevertheless not many schools will be satisfied merely to refer their leaving children to a near-by public employment office, with no voice, oversight, or power.

To a considerable degree, the success of vocational guidance and training efforts is conditioned by the thoroness of their articulation with working conditions and with social movements. Within a well-defined sphere of its own in the school system, vocational service is of the utmost value. It endeavors to help pupils to self-knowledge, and to reconstruct school programs in order that they may more sensitively minister to the self-discovery and economic needs of different pupils. Vocational service—both guidance and training are here included—is an instrument for talent-saving, and for interpreting school life in terms of career building. In its larger relationships, however, vocational service is only one phase of the social organization of school and vocation. It introduces into education the motive of the life career and the idea of fitness of the individual, apart from class or group; it introduces into employment the idea of fitness of the task, and appraises the occupations in terms of career values as well as social worth.

The passing of the labor exchanges act was facilitated by the belief that a personal advisory service in connection with work seeking would help lessen the waste due both to job hunting and to misemployment. No little addition to the volume of unemployment comes from what W. H. Beveridge, director of the labor exchanges, calls, "qualitative maladjustment." No more promising institution than the public school exists to undertake the task of qualitative vocational adjustment. The question arises as to whether the public school system would best undertake alone to deal with the start in vocation, or leave it to other agencies, while reserving for itself the task of providing for needs which arise in the course of employment, such as further training opportunities. It is submitted that the schools will have to concern themselves, actively and dominantly with every phase of the vocational start in life. Is the average school system ready to undertake this new and enormously difficult business? It is not. Indeed, so little is it prepared to do this work at the present time that a hasty undertaking of it would probably indicate a lack of understanding. It is doubtful, in the first place, if a school department can alone effectively organize the labor market for young workers. The pronouncements on this subject by Scotch and English authorities are convincing. On the whole, experience seems to support the proposition that the school system is not the most suitable agency to attempt the organization of the labor market for the young, and the correlative proposition that the carrying on of juvenile employment agencies without control over them by the school, is not in the best interests of the children.

It is assumed that work seeking in this country will more and more be under the direction of the public thru state or possibly municipal agencies; for we are almost the only advanced industrial country to continue the present demoralizing chaos of an unorganized labor market. Public labor bureaus, when rightly managed and properly understood, are capable of considerably larger services than labor registration, important tho this is. Developments in the best of these bureaus in England and in Germany promise a new type of civic center and agency for industrial betterment. Everywhere the best practice is to separate the juvenile from the adult departments of these bureaus, and the girls' from the boys' departments. More and more the young work-seekers' problems are being treated as something distinctly different from those of adults. We are confronted, then, with the need of not only organizing placement provisions for the young, but, in addition, a comprehensive instrument of social and educational protection.

RELATION OF THE PUBLIC SCHOOL TO THE EMPLOYMENT AGENCY.

The public school must remember the fact that it is, primarily, an educational institution with social aims. What a century of child-welfare effort and experience has taught the friends of working children, the schools can, least of all, afford to ignore. More than any other institution, the school must stand for a high minimum of protection for all children. It is not to the credit of our schools that, on the whole, they have been unaware of a situation which many an employer has known for some time, and this is, the economic uselessness of children from 14 to 16. Schools have sometimes been willing to plunge into small or large employment schemes as if full-time work were the right thing for growing children.

Of the public schools, more than of any other institution, public or private, we have the right to expect a clear vision and a determined stand with respect to the interests of childhood and youth. Private societies do and may, by way of experiment, make concessions and compromises in order to carry out their various purposes, but in the practice of the public school system, we look for exemplification of the permanent principles which should control all the activities in which young people find themselves.

There are three distinct aspects of the problem of adolescent employment: The educational, economic, and social. Thru extension of vocational training opportunities, and especially, thru the provision for prevocational schools which, when their purposes are better understood, will become *self-discovery schools*, and as such, afford young people and their teachers a most important basis for vocational guidance, the schools are beginning to deal with the first of the three aspects named.

As public labor offices grow in number, the economic side of the problem will be given at least a preliminary treatment. This will be not more than preliminary, however; for a juvenile employment department is, notwithstanding general opinion, a placement agency only secondarily. It is in facing the third or social aspect of the entire problem that we find the basis for satisfactory organization.

IMPORTANCE OF DEVELOPING RIGHT ATTITUDE.

This proposed social basis for juvenile labor organization is intended not so much to protect the boy worker or girl worker under 18

against employers as against themselves. The greatest difficulty in dealing with the boy who is about to leave school for work lies in the fact that he regards himself as a worker who has outgrown the learner. Not until disastrous experience has overtaken many of these children do they begin to realize how much a learning attitude would have meant in building a career. A large part of this difficulty is due to leaving the question of the boy's future unconsidered until school-leaving time.

As we do things piece-meal in this country, we are likely to find in a number of places a vocation bureau in the schools, with perhaps a number of vocational training classes; a separate employment bureau of the city or state to which boys are sent or drift; and perhaps a private or semi-public advisory body with no real power, making futile efforts to help the troubled children with a disorganized machinery of service.

We need to write into the law establishing labor offices that a juvenile department shall be managed by a central executive committee appointed by the school system; which committee shall be made up of school people, employers, social workers, and employes, to advise as to the school vocational guidance and training activities on the one hand, and manage the occupational research and placement supervision activities of the labor bureau on the other. This committee should be empowered, thru health officers and other trained specialists, to study children; to take them out of workplaces, if need be; and thru scientific investigations to list occupations from the viewpoint of opportunity as well as their manifold reactions on the worker. Children under 16 are to be under training, part-time at least, until the public is ready to care for their entire 14 to 16 year period.

From what has been said regarding the duties of a juvenile employment agency, with its suggested two-fold powers, namely, close supervision of the vocational activities of the school system and control over placement and its associated features, it is clear that "employment agency" is a misnomer. Perhaps a better name for such a body and agency would be the "vocational service bureau." Service, intelligent, deliberate, and coordinated with the work of all existing upbuilding agencies, is indeed the main business of an employment office for minors. There are problems connected with such employment of the greatest importance to the public and on these we have little or no information. These are the amount of juvenile under-employment, mis-employment and unemployment; the causes of maladjustment, and how far training and what kind of training can lessen these causes; and the specific, thoroly

analyzed, requirements of the occupations. To enlighten the public as to these matters and secure such constructive legislation as may be necessary is perhaps the most far-reaching work which such a service bureau can do. It is not difficult to conceive that a public enterprise which combines help to groping youth with social planning will in time have laid foundations of a service which will safeguard, strengthen, equip, and inspire boys and girls for their appropriate work to an extent nowhere as yet to be found.

IN THE USUAL CASE IT IS A WASTE OF TIME TO ATTEMPT TO PREDETERMINE THE BOY'S VOCATIONAL LIFE BEFORE HE HAS GONE AT LEAST WELL UP THRU THE INTERMEDIATE GRADES OF THE COMMON SCHOOL; AND EVEN THEN, THERE IS USUALLY NOT MUCH INDICATION OF WHAT HE IS BEST SUITED FOR. SO, ONE OF THE GREAT PURPOSES OF THE COMMON SCHOOL COURSE IS THAT OF SOUNDING THE BOY ON EVERY SIDE AND EVERY DEPTH OF HIS NATURE, SO TO SPEAK, IN ORDER TO FIND WHAT IS THERE, AND TO DETERMINE WHAT HE IS BY INHERITANCE BEST SUITED TO DO AS A LIFE WORK.—W. A. McKeever.



FIG. 1A. A NEW RURAL HIGH SCHOOL IN A SMALL TOWN—TWO TEACHERS, CURRICULA IN AGRICULTURE AND DOMESTIC ARTS, CHARLESTON SCHOOL DISTRICT.

THE NEW HAMPSHIRE TYPE OF RECONSTRUCTED RURAL HIGH SCHOOL.

H. A. BROWN.

SECONDARY education in this country in the past has been deficient and has failed in a measure for the reason that in many cases it has had too little relation to the life of the boy or girl outside of school. It has been forcibly and clearly pointed out¹ that there is great waste in education from the fact that the child is too often unable to make adequate use in school of the experiences which he gets outside of school, and, on the other hand, he similarly fails to profit sufficiently in life from that which he learns in school. For this reason, the statement that the school is an institution which is isolated from life is not without a measure of truth. It is in this respect that the rural high school is conspicuously weak. The problem of securing a type of education in the high schools of the rural sections thruout the country which is adequate to community needs is one of the important educational problems of our times. The effective solution of this problem has a direct and vital relation to the welfare of the rural community.

¹ Dewey: *The School and Society*.

It is the purpose in this article to describe the program of studies which is used in fifteen New Hampshire high schools situated in rural sections in which agriculture is the predominating industry.²

A high school which is to serve most efficiently the needs of an agricultural community requires a special type of school building, differ-



FIG. 2. A LESSON IN THE GREENHOUSE, COLEBROOK.

ent in several important respects from the ordinary building. A building must be designed especially for teaching such industrial arts as should be taught in a country high school in an agricultural section. Four features of this new type of building, which should belong to every high school situated in a rural agricultural section, deserve attention. These new buildings are rapidly replacing the old, Fig. 1.

(1) Connected with two high schools are greenhouses about 28' to 30' long and 18' to 20' wide, which are used in connection with the courses in agriculture, particularly agronomy and horticulture, Fig. 2.

² For a more complete discussion of this topic see the following by the writer: *The Readjustment of a Rural High School to the Needs of the Community*, Bureau of Education, Bulletin No. 20, 1912. *The Reorganization of Secondary Education in New Hampshire*, *School Review*, Vol. XXII, Nos. 2 and 4, March and April, 1914, pp. 145-156, 235-248.

(2) The main building of the old school plant of one high school, which was retained when a new building was built and is situated just behind the new building, has a large basement in which is a forge-room and blacksmith shop for forging and farm blacksmithing. Upstairs is a carpenter shop and woodworking room for teaching farm carpentry.



FIG. 3. A CLASS IN FORGING, COLEBROOK.

These are equipped with the necessary benches, forges, anvils, vises, and tools for this line of work. All the schools have equivalent facilities for this work, Fig. 3.

(3) Domestic arts is given an important place in rural high schools. This department usually has a commodious kitchen equipped with range and hot water boiler, blue flame stoves, cooking tables, sink with both hot and cold water, cooking utensils, and dishes. Adjoining this is ordinarily found a well arranged dining-room properly equipped for serving. Provision is also made for sewing and dress-making, Fig. 4.

(4) A room, usually in the basement, is devoted to a dairy laboratory, Fig. 5. This is equipped with sink, cabinets, tables, separators, churn, butter worker, Babcock milk tester, and all the other necessary dairy apparatus.

COURSES OF STUDY.

These rural high schools have attempted to solve the problem of universal high school education by offering courses of study sufficient in scope and character to provide for the needs of every boy and girl in the community and section. Generally, they have three courses of study as follows: classical, agricultural, and domestic arts. The faculty consists of from three to five or six teachers, in addition to the district superintendent of the supervisory district in which the school is located, each of whom has had special training for his work. The work in agriculture is in the hands of a man who is a graduate of an agricultural college, and the work in domestic arts is taught by a graduate in household economics of some standard college. The courses are four years in length and the agriculture or the domestic arts occupies from a fourth to a half of the pupil's attention while the remainder of his time is spent in the study of English, modern languages, mathematics, history, and science. The educational value side of the industrial courses is emphasized.

The first year's work in the agricultural course is devoted to agronomy, farm carpentry, English, and advanced arithmetic. The work in agronomy covers the following ground: elementary study of plant life, soils, fertilizers and manures, farm crops, handling of field crops, seed selection and testing, and insects. Extensive use is made of the greenhouse, when there is one, as a laboratory in which a large amount of practical work is done thruout the year. In connection with the elementary study of plant life considerable practical botany is taught, including the structure, composition, and germination of seeds, structure and work of stems, roots and leaves, seminal and vegetative reproduction, and the struggle for existence. In connection with the soil study special attention is given to the best methods of improving soils and maintaining permanent fertility of soil on the farm. The boys are taught in an elementary way the relation of fertilizers to the soil and to plant growth and to the plant food elements required by the crops to be planted. They learn that each must study and make experiments upon his own particular soil to find out its needs, and experiments are carried on by the class along this line to show how it may be done in the best way. In the fall, in connection with the harvesting of the crops in the school garden, seed testing is important work for the prospective farmers. In the case of corn, for example, the boys are taught

that they must test each ear which is to be kept for seed. Every ear which can not show a hundred per cent of fertility is discarded. A great deal of project work is done in all of the courses.

FARM MECHANICS.

Two years of farm mechanics, so-called, are given. This consists of a year of woodworking and farm carpentry in the first year and a year of forging and farm blacksmithing in the second year. The boys have daily work at the forge and bench thruout the two years and make useful articles of wood and iron. They learn how to manage the fire, to bend, shape, and weld both iron and steel. Typical articles which they make are chain links, irons for sleds and wagons, whiffle-tree irons, wagon bodies, hotbed sashes, and screen doors. The greatest benefit which is derived from the work in carpentry and blacksmithing is the power gained by the boys to use their hands and to use them to useful mechanical purpose. Not only do they learn to make many things of wood and iron but they acquire something of the skill of the carpenter and the blacksmith and learn enough of the structure and construction of farm buildings, implements, and machinery to enable them to make buildings for themselves and repair machinery and tools.

The second year's work in the agricultural course includes animal husbandry and dairying, farm blacksmithing, English, and mathematics, which includes the algebra of the equation, mensurational geometry, and simple surveying. Formal courses in algebra and geometry are eliminated from the agricultural and domestic arts courses.

In animal husbandry a study is made of the elementary principles of animal life as applied to the purposes of the farm and in dairying, during the latter part of the year, the class devotes a portion of the time to laboratory work, including particularly work with the Babcock milk tester. This, as well as much of the other work in agriculture, will be of great value to the farmers in the vicinity. Such topics as the following form the basis of the work in animal husbandry: study of common domestic animals, types and breeds of farm animals, breeding, principles and practice of feeding, and the structure and functions of the animal body. The classes have a great deal of field work along the line of stock judging among the various herds in the vicinity. The dairying is covered under the following heads: conditions essential to the production of good milk, testing, sanitary and other precautions in the



FIG. 4. CLASS IN DRESSMAKING, COLEBROOK.

handling of milk, and the general principles involved in butter and cheese making.

In the third year the agricultural course provides for the study of road building, forestry, horticulture, English, and physics.

The work in road building includes a study and comparison of the various kinds of roads such as dirt, gravel, macadam, and telford. The essentials of a good road, grades, solidity, and water shedding characteristics are considered. Road material and principles of construction receive attention. Field work along the line of observation of construction of a state highway in the vicinity is a prominent part of the course.

In forestry a study is made of New Hampshire forest types, life history, associates, and enemies of the characteristic tree in each type. Some of the main topics which form the basis of the instruction are forest seeding and planting, management of the farm forest and of government forests, conservative lumbering, relation to stream flow and general rural conditions. Practical field observation and lectures by experienced foresters and lumbermen will form a part of the course when completely organized.

In horticulture the principles, construction, and use of hotbeds, greenhouses, and cold frames are taught in a practical way. The care of plants under glass, forcing, and hardening receive attention. A special study is made of vegetable, fruit, and flower growing and with the use of the greenhouse, school garden, and extensive use of projects this work is made entirely practical.

RURAL ECONOMY AND FARM MANAGEMENT.

The senior year is devoted to rural economy and farm management, physiography, English, American history, and chemistry.

In connection with the rural economy and farm management, in which an opportunity is offered to teach a good deal of practical mathematics, farm accounting, bookeeping, and business methods are studied. The conditions which determine farm values are discussed. Systems of cropping, marketing and transportation, management of fields and cropping, water supply, sewerage, and the elements of rural law receive attention.

The first year's work for the girls in the course in domestic arts includes elementary cooking, dressmaking and millinery, advanced arithmetic, English, and ancient history.

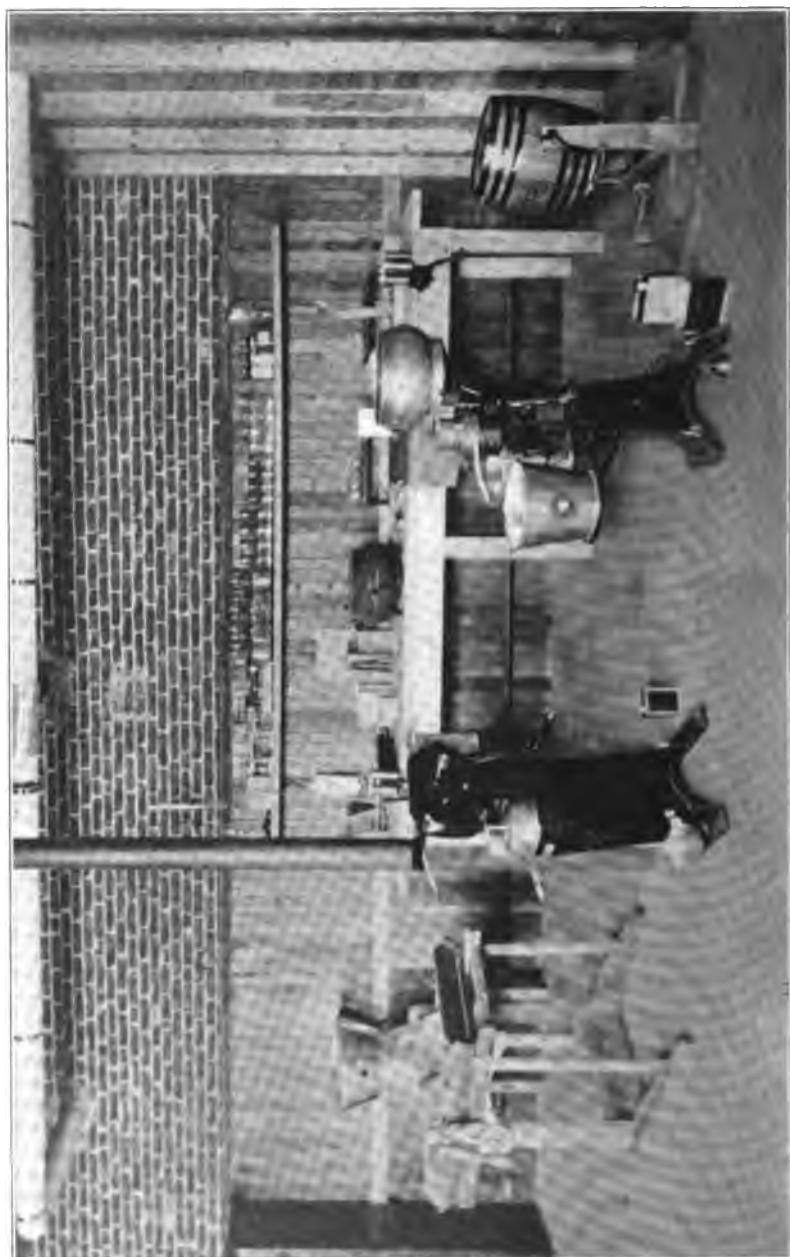


FIG. 5. A CORNER OF THE DAIRY LABORATORY, COLEBROOK.

The work in sewing generally covers all cutting and stitching involved in sewing simple articles for dress and household, if sewing is not given in the elementary schools. The girls make all the articles which they use in cooking, including their caps and aprons, sleeve protectors, towels, and aprons for general use; handkerchiefs, kimonos, sewing bags, jabots, and many other similar articles are made. The more advanced sewing includes dressmaking, millinery, and designing. Designing, cutting, and fitting, the study of hat forms, and designing and trimming of hats are the main subjects studied. They have practice in sewing clothing cut by competent fitters, and learn the elementary principles of machine sewing.

In the elementary cooking of the first year a good deal of attention is given to teaching the management of coal, wood, and oil ranges. The cooking of staple articles of diet is taught, together with the care of utensils, sink, and other apparatus. The classes prepare simple menus and have practical work in serving thruout the year when members of the school board, the faculty of the school, and visitors are invited in to luncheon.

In the second year of the domestic arts course the girls study household mechanical appliances, household sanitation and hygiene, English, and French.

HOUSEHOLD MECHANICAL APPLIANCES.

Household mechanical appliances includes a study of the elementary scientific principles underlying household problems such as those of heat, ventilation, plumbing, gas and electric lights, electric bells, refrigerators, ice cream freezers, and fireless cookers. There is hardly a mechanical appliance used in the home which does not illustrate some scientific principle, and this work is of the nature of applied physics. The value of this for girls is obvious. They see the practical application of the principles which they study in those things with which they come in contact in their daily lives. The educational value is greater than in the case of those things which are remote from the experiences of their daily lives and, therefore, but imperfectly understood.

The second line of study for the remainder of this year is household sanitation and hygiene in which the problems of light, heat, ventilation, dust, sewerage, and similar problems are studied from the point of view of sanitation and hygiene. The girls who take a course

of this kind, by their increased intelligence along the line of the proper sanitation and hygiene of the home, have a powerful defense against disease, a large part of which is due to lack of intelligence along hygienic and sanitary lines.

The domestic arts studies of the third year are advanced physiology and hygiene and the elements of nursing.

The senior year is devoted to advanced cooking and dietaries, household design and decoration, household economics, English, American history, chemistry, and French.

The household economics gives the young women a large amount of practical experience and highly valuable training in household book-keeping, marketing, and general buying. Incidentally, they receive training in practical mathematics. They are given a stated income and a stated family and are required to furnish house, clothing, and food for an imaginary family for a year dealing in current prices.

In the household design and decoration, floor plans and elevations of dwelling houses and the elementary principles of location and structure receive the attention of the class. A study is made of the entire process of building, finishing, and furnishing the house. Consideration is given to wall papers, carpet and rug designs, and general color schemes, together with attention to furniture from the point of view of both serviceableness and artistic values. Each of the girls makes and furnishes an imaginary house by means of representations of rooms on large sheets of heavy paper. Wall paper is selected from sample books of paper and pictures of furniture, rugs, and other articles are selected from catalogs and pasted onto the representations of the rooms in the proper places. Each girl works out her color schemes, selects her furniture, and learns the prices from catalogs and from the stores in town.

In the advanced cooking and dietaries the more scientific aspects are studied. The work centers around the study of food values, the chemistry and biology of cooking, and the preparation of economical dietaries. The diet of the sick room also receives attention.

The principle underlying the work of the domestic arts course may be expressed as follows: "The education of the hand coordinated with the education of the head, and both directed towards practical work, forms the firmest foundation for a cultured woman."

The solution of the problem of the welfare of the rural sections is a matter of great importance not only to the educator but to all

classes of people. The "Country Life Movement" which aims to make "rural civilization as effective and satisfying as other civilization" demands an improvement in rural education. The constant cityward trend of population on the part of our young people, who are born in the country, needs to be checked. This will come about by means of a change in the type of secondary education. High schools, with good courses in agriculture for the boys and domestic arts for the girls, will create an interest in the farm and the home and their problems and, by giving an education which prepares for life in the home environment, will tend to keep the young people at home. In this lies the solution of one of the most vital and, in its consequences, one of the most far-reaching problems facing the educator at the present time. When, under the reconstructed scheme of rural secondary education, the boy finishes the high school course, if he is not one of the few who can go to college, he finds himself equipped with an interest in the problems of the farm, with an appreciation of the value of farm life, with a conception of the dignity of scientific agriculture, and with an attitude towards farm life which is entirely different from that of those who for four years have been educated away from the farm and the home and who have been taught that only in professional life can a living honorably and respectably be made. When farming is raised to the dignity of a profession and homemaking is exalted and placed upon an equal basis, the movement for the effective improvement of rural life can be pushed forward to a more speedy realization and the present trend of population toward the city will in some measure cease. Our rural secondary schools will then come nearer than they ever have in the past to realizing their true mission, and will be a vital force in rendering more efficient rural civilization. Then will they function in a large way as one of the important factors which are contributing to the uplift of rural life.

THE IDEA IS FAST COMING HOME TO THE COUNTRY PEOPLE
THAT THE OPEN COUNTRY IS THE BEST PLACE TO REAR MEN
AND WOMEN. THE DAY IS AT HAND WHEN THE COUNTRY
SCHOOL ALSO WILL AFFORD THE BOYS AND GIRLS THE BEST
CHANCE TO GROW INTO A VIGOROUS AND EFFECTIVE MANHOOD
AND WOMANHOOD.—N. J. Hoffman.

STATE CONTROL OF ENTRANCE TO THE INDUSTRIES.

ROBERT W. SELVIDGE.

THE education of a youth must not be regarded as an isolated fact but as an integral part of his daily life. If education is a "preparation for life" or if "it is life," as has been stated, our present system fails unless it prepares the youth as a worker in his chosen field. It is not enough to train him during his early childhood and then, when he has reached the critical point in his career, say to him: "Go choose your vocation and learn it by such opportunities as you may find and under such conditions as employer and labor organizations prescribe." It seems inexplicable that we should desert our youth as soon as they start to learn the business by which they expect to make a living, but that has been our practice. When a boy "goes to work" we leave the responsibility for all future instruction to the employer. His instruction from that source will be only what the employer believes to be absolutely necessary for that particular job. Employers recognize no obligation to train workmen, nor do they feel that they can go to the expense of training workers who later may be employed by their competitors. The result has been poorly trained and inefficient workers.

Splendid as our efforts have been in the organization of industrial schools, trade schools, part-time schools, etc., we are forced to confess that effective results have been in no way commensurate with the energies expended. One of our difficulties is that we have not realized that a large part of our instruction should be done outside of the schoolroom. The place to learn the technic of an occupation is in the occupation, and it is the duty of the state, thru its educational agencies, to go with the youth into his occupation, instruct him, and continue with him until he becomes a thoroly trained workman. This means the teacher in the shop as well as in the schoolroom. The youth is entitled to just as careful and thoro instruction while he is learning his occupation as he is while he is learning to read, and it is just as essential that the state assume the responsibility for the one as the other. Such an arrangement would provide instruction in the theory and technic of the vocation as well as in those things which make leisure pleasant and profitable. The value of a discerning teacher, as a vocational adviser

for the beginners in industrial life, scarcely can be estimated. The boy is interested in the business of life and we must help him. *Any system of education breaks down which does not continue instruction until the individual is established as a competent worker in his vocation.*

During the past our attention has been directed chiefly toward the problems of organization with a view to proper and efficient instruction. The first step in the solution of the problem, however, is one of *control* rather than instruction. If we wish to raise the standard of workmanship in an occupation we must control the entrance to that occupation. Extensive schools, perfect organization, and the most talented teachers can do little to raise the standards unless admission to the vocation is guarded. This has been demonstrated clearly in all the occupations, we call professions. Lawyers, physicians, pharmacists, teachers, and many others must have licenses to practice their professions. We believe this is a wise provision, and undoubtedly it has added to our esteem of these callings. It has meant a higher standard of efficiency and we should be unwilling to go back to a condition where anyone might assume the title of "doctor" and practice medicine or compound prescriptions without restrictions. Abundant opportunity must be provided for instruction, but entrance to the industry must be guarded, in order that we may set standards of proficiency and thus avoid the waste of incompetency. A man should be permitted to practice a calling only after he has received a certificate of competency, and is known to be physically fit to undertake such employment.

DEFINE THE STATUS OF THE GRADUATE.

One of the chief difficulties with our trade schools lies in the fact that the status of the graduates is not defined. The student is preparing for a vocation, but he does not know what position he can take when the school has done all it can for him in the way of preparation. At present he has one of two courses open to him. He may become a non-union workman or he may enter the industry on the terms prescribed by the union of his craft. If he enters the trade as a non-union man he knows that he will be held in about the same esteem by union men that lawyers and doctors hold "snitches" and "quacks." But labor unions are not always wise nor are they always just, and sometimes they refuse to give to school work the recognition that such work

deserves. In some places the school authorities, the unions, and the employes have entered into agreements, but these are only temporary in character, and any labor trouble is likely to disturb the arrangement. The uncertainty as to the recognition he will receive acts as a deterrent to the youth, and greatly handicaps the school. No school, maintained for the specific purpose, can be successful, in any large sense, until its graduates are given a definite standing.

Entrance to the industries should be based upon preparation as well as age. In most states a boy of fourteen may enter any occupation in which he can find an employer. A few states make some restrictions until the youth is sixteen, but none require specific training for the industry. A vast majority of our boys and girls enter industrial occupations for which they have no particular inclination nor aptitude. They aimlessly float into an occupation and after a short time just as aimlessly float out again. Truly "they know not what they do." They cannot orient themselves in the great maze of factory life. They are without chart or compass and no one supplies their need. No one cares, provided they finish so many dozen per day. They see nothing but the monotony of an endless task and flee from it. From this class come the "industrial misfits" and "job hoboes." They have no pride in their craft, no appreciation of good workmanship. Without some pride in occupation self-respect is impossible, and self-respect is a better basis for good citizenship than political maxims.

The seriousness of the situation is revealed in the statement of a manufacturer a short time ago, in which he said that it takes about 240 employes to run his business but that in one year he had had more than 2,000 different persons on his pay roll. Clearly something is wrong, and such a condition could not exist if the state controlled the entrance to the industry.

The state should establish a standard for entrance to the industries, not only as a protection to those who have gone to the expense of proper preparation from the competition of the inefficient, but as a protection to employers and society in general against imposters. It is the surest way of raising the standards of workmanship and securing general respect for the occupation. It would increase the popularity of the trades, for the greater the respect in which an occupation is held the greater the desire to enter it. It would protect the unions from being compelled to admit incompetent and undesirable workmen to their ranks, as they must do now, in order to preserve their organization. It would

bring to the trades higher standards of workmanship just as it has brought higher standards to the professions. The quality of an article is determined by what goes into it. So the quality of workmanship in a craft can be determined only by controlling admission to the craft. This is to a very large degree the reason for the superior craftsmanship of the period of the gilds. If, however, society sets a standard for admission to an occupation it must afford the individual an opportunity to prepare for the occupation.

A SYSTEM OF CERTIFICATION.

A system of certification would enable us to know at any time the number of workers engaged in an occupation as well as the number available for employment in that line. The information we have on this subject usually is local in character, incomplete and unreliable in fact. The U. S. Census reports are almost wholly without value in this respect. Even in the highly skilled trades we do not know, with any degree of accuracy, the number of men employed, nor do we know the number of available men not employed. In the less skilled trades it is impossible to give an estimate of the number of workers available, as large numbers may enter without previous preparation. The facts of supply and demand, employment and unemployment, are absolutely indispensable to efficient work of the vocational adviser, but at the present time he must rely upon a local survey which is expensive and often inaccurate.

Under a system of public instruction within the industry and the control of admission as full fledged workers, in the hands of the educational authorities, the exploitation of children would be superceded by a wholesome amount of instructive and productive labor. Long hours of exacting toil would not be permitted, nor what is almost as bad, long months of idleness. A reasonable amount of labor, in a healthful environment, accompanied by instruction and responsibility are necessary conditions to the proper development of a resourceful and self-reliant man.

It would be an easy matter for the state so to control and direct the activities and education of children in juvenile occupations that they would be years of profit rather than waste. The education of every child should continue until he has learned an adult occupation. Juvenile employments should be recognized as temporary in character, and if children must go into an industry we should go with them. At least

half of the little workers' time should be devoted to the preparation for an adult occupation. In this connection some broader interests should be cultivated. In occupations which require little thought and are largely automatic, it is of highest importance that some wholesome interest be established outside the occupation. If a wholesome interest is not established an unwholesome one will be. The human mind cannot endure the monotony of continuous contemplation of an automatic process. The division of labor with the consequent automatic processes is a necessary part of modern production, but our system of education fails unless we stay with the worker until we give him something to think of besides his endless task.

TWO PROPOSITIONS INVOLVED.

The plan proposed is in reality an apprenticeship system arranged to meet the requirements of modern industry. It involves two simple propositions and the basic principles in these have been quite generally recognized. The first proposition that the state should retain control of the education of the youth until he is a thoroly competent worker in his vocation represents only an extension of the educational functions of the state. We are agreed that more thoro instruction is necessary, and no one doubts that the best place to give instruction in the technic and practice of an occupation is where the occupation is being carried on. It seems equally clear that the instruction should be given by a teacher, employed by the public, who would have no selfish interests involved.

This could not be regarded as an invasion of the industry by the school any more than the present industrial schools can be regarded as an invasion of the school by the industries.

The second proposition, that individuals should be admitted to the practice of a vocation only on a certificate of competency, and that certification be in the hands of the educational authorities of the state, is only slightly in advance of the present practice in a number of occupations. Certification is required in most of the professions, but certification is usually in the hands of boards composed of members of the profession. It is doubtful if employers would be willing to leave the certification of employes to a board composed of members of the craft, and it is improbable that the employes would be willing to leave the matter to the employers. It therefore appears that certification should be in the hands of the educational authorities who are responsible for the training.

The matter of certification in the trades is by no means new. Many states require barbers to pass an examination, and most municipalities require workers in certain crafts to hold certificates of proficiency. This is especially true where it is believed incompetency would subject the public to danger. Our present industrial life is so complicated and individual responsibility for social welfare is so great that it would be very difficult to select an occupation which would be exempt from this responsibility. The incompetency of the section hand has been responsible for many disastrous railroad wrecks. As a mere matter of protection to society it is essential that we secure the highest possible efficiency in every worker.

The propositions here presented must be developed together. They involve the two great principles of social responsibility and social control. Neither can stand alone. If we exercise the control we must accept the responsibility, and if we assume the responsibility we must exercise control. If we undertake to prepare for a vocation we must control the entrance to the vocation, and if we control the entrance to the vocation we must give an opportunity to prepare for the vocation.

WHAT THE COUNTRY WANTS NOW IS WORKMEN—
INTELLIGENT, INDUSTRIOUS, THRIFTY WORKMEN,
MEN WHO CAN DO SKILLFULLY THE WORK THAT
WAITS FOR THE DOING, WHO CAN INVENT NEW
MEANS AND BETTER PROCESSES FOR DEVELOPING THE
CRUDE RESOURCES OF THE LAND, AND FOR CONVERT-
ING CRUDE MATTER INTO LIFE-SUSTAINING AND
LIFE-ENRICHING WEALTH.

MERE CLERKS AND RECORD KEEPERS ARE AT A
DISCOUNT. THERE ARE TOO MANY OF THEM. AND
THE PROFESSIONS, SO CALLED, ARE ALMOST EQUALLY
CROWDED WITH MEN WHO HAVE NOTHING TO DO.—
The Apprenticeship Bulletin.

COOPERATION OF THE SCHOOLS IN REDUCING CHILD LABOR.¹

FRANK M. LEAVITT.

THE time at my disposal is so brief and the topic is so large that I must ask you to permit me to make rather dogmatic statements and to believe that I could give abundant proof in illustrative facts and figures if there were opportunity.

I must also ask you to reflect that my topic necessarily confines discussion to the more elementary educational institutions, and makes irrelevant any consideration of technical and professional schools and also of the children in the lower schools who are surely and happily on their way to the higher institutions.

I wish to make three points:

First:—That our public schools have too frequently contributed in no small degree, both to child labor and to child idleness.

Second:—That the most important educational advance during the past ten years has been the development of a strong sentiment in favor of more practical educational ideals, and more sympathetic and therefore more efficient school methods for the very children in whom the National Child Labor Committee is interested.

Third:—That we have now enough information and experience to enable the schools to adopt such a program that they will no longer contribute to child labor but will become one of the most potent factors in reducing it and in eliminating altogether its most harmful features.

Admitting that our free public school system is one of America's most beneficent institutions: agreeing heartily with the statement of Horace Mann that, "In an age of inventions, the public school is the greatest invention of man;" appreciating that for thousands upon thousands of children it has developed ambitions, given inspiration, and furnished information and training leading to the satisfaction of such ambitions and to the consequent advancement of society; yet I must insist that, for other thousands of children, our schools are doing little except to induce them, at the earliest possible opportunity, to escape its

¹ Address given at the meeting of the National Child Labor Committee, New Orleans, La., Mar. 15-18, 1914.

tortures and to submit themselves to the more tolerable conditions of child labor.

What are some of the indications of the truth of this statement?

The facts regarding the elimination of children from the schools are too well known to need extended discussion. The United States Commissioner of Education tells us that 26 per cent of all white children in the country get into the high school. Of the remaining 74 per cent a large fraction do not go beyond the 5th grade. But *this does not give me as much concern* as the fact that the schools *part* with these children *complacently*—often *gladly*. They point with pride to the successful few and lose sight of the unprogressive many. They frequently pride themselves on their “high standards,” which means the relentlessness with which they exclude from the benefits of public education the very children who most need our sympathetic care and attention.

Until very recently the schools have been apathetic toward all efforts to bring about a closer articulation with the humbler occupations of life and to modify their traditional attitude toward work and the potential worker. This attitude may be revealed by the oft repeated admonition to “study your books if you want to be something better than a farmer or laborer.”

I am convinced by years of experience, observation and study that hordes of children leave school early and unnecessarily because of its uncongenial atmosphere; the lack of any important relation between school work and the child’s social and economic environment; the unsympathetic attitude of teachers, many of whom are wholly out of touch with these conditions; and because of a general misconception of the *primary purpose* of public education.

I could give you facts by the hour to substantiate these statements but I can refer to only one, and suggest that you read, in McClure’s Magazine for April, 1913, the article from which this reference is taken—an article, by Helen M. Todd, a Chicago factory inspector, entitled “Why Children Work—The Children’s Answer.”

In reply to Miss Todd’s question, put individually to 500 factory children, fourteen to sixteen years of age, as to whether they would rather be in school or in the factory if there were plenty of money in the family, 412 said they would prefer the factory. The reasons given were particularly enlightening. I can give but two. “You never understands what they *tells* you in school, but you can learn right off to *do things* in a factory.” Another. “When you works a whole month at school,

the teacher she gives you a card to take home, that says how you ain't any good."

Who would not prefer to be in a place where successful effort is recognized and rewarded, even inadequately, than where the best work of which one is competent brings forth the invariable comment "You ain't any good."

Summing up my first point I would say that, while it is unwarrantable to say that the public school is a failure, it is nevertheless true that we permit far too many children to fail in the schools, thereby *enhancing*, in the eyes of the children, every opportunity offered by the child employing industries.

It is only when viewed against this somewhat sombre background that the great educational advance of the past ten years becomes truly significant. Is it something more than a coincidence that this period has also seen the birth and development of the National Child Labor Committee?

While it must be admitted that the majority of schools have changed little during this time, there have sprung up in all parts of the country, both in the large industrial centers and in rural and township communities, progressive school systems which have greatly modified their attitude toward work and toward the potential working child. Briefly stated the fundamental philosophy of the movement is based on a frank recognition of the fact that the school has too frequently taught children *how to fail*, and has convinced them that "education" was something in which they could never have any possible interest because it bore no relation to any life of which they had any conception. It further recognizes that the chief duty of the public school is to develop in all children, especially in those who must soon face the problems of self support, the *habit of successful effort*. The *method* is to provide something in which the children can progress and succeed, and for large numbers of the children in whom we are interested this something is frequently *work*.

We must distinguish clearly between work and labor and should see that by promoting child *work* we reduce *child labor*. It is recorded of the child Jesus that, at the age of twelve, that entrance to the marvelous period of adolescence, a period which educators are just coming dimly to understand, it is recorded that the child said that he must be about his Father's business, foreshadowing that later utterance "My Father worketh hitherto and I *work*." How slow the centuries have been to grasp the significance of that beautiful story. What the work is does not

matter materially but the desire to work is as universal in the normal, civilized child as the desire to play. And I repeat, if we refuse the opportunity to work we contribute to child labor and to what is perhaps even worse, child idleness. The schools are coming to see, as never before, the educational interdependence of play, study and *work*.

Another indication that the more progressive school systems have changed greatly is their willingness to appeal to, and to satisfy the vocational motive in high school work.

While the high school enrolment has more than doubled in the ten years of which we are speaking, the percentage of high school pupils "preparing for college" has been reduced by more than fifty per cent. The reason is not hard to find. The high school is coming to recognize the right of pupils to receive training for the humbler vocations as well as for the professions, and so we find in many public high schools a great variety of practical subjects and even two year vocational courses, sometimes open to children who have not regularly graduated from the elementary school.

I have spoken of this development of the high school rather than describe the various types of special vocational schools and classes recently developed, because this furnishes a more conclusive proof that our educational ideals are becoming more rational and more democratic, but I must at least mention the vocational and pre-vocational schools, the part-time courses, the continuation schools, the general industrial and trade schools which have come into existence within this ten-year period, and which show the trend of popular education.

I have left for special mention what is coming to be known as "vocational guidance." In brief it is a scheme to furnish the children with better occupational and educational advice and assistance by bringing together, in conscious, cooperative effort, the school, the home, the work place, and any and all organizations which can supply accurate, concrete and pertinent information. Such work is offered in the school and such plans are formulated as will interest the children, the parents, and the possible employers. These plans reach back into the school and forward into the early occupational experience of the children when they finally take that important step, now generally alone, from school to work.

There are several different schemes for vocational guidance, appropriate for different types of pupils from the college student down to the child who leaves school at fourteen years of age and from the

fifth grade. I can mention the details of only one, that most pertinent to our subject and which we may call "employment supervision." Under this or some other name some progressive school systems are now keeping permanent, cumulative records of all children between fourteen and sixteen who have gone to work.

The position which the child takes, the hours and conditions of work, the pay and the progress are all matters of interest and *matters of exact record*.

The work certificate is not the property of the child but of the school, and if the child leaves his place, or is discharged, the fact becomes known at once to the authorities, and the child comes again under their immediate charge.

In the process of issuing and transferring these certificates the school authorities have a unique opportunity to advise and guide the young worker. It is not long before the employers, children, and parents recognize the great value of having the municipal authority "back of" the child, to assist, hearten, admonish, if needs be to compel. Such practice as I have briefly outlined has,

First: Prevented many children from leaving school thoughtlessly and unnecessarily;

Second: Induced many to go to some new type of school appropriate to the case in hand;

Third: Greatly reduced "job hoboism;"

Fourth: Induced some to continue their interest in formal education tho engaged in work;

Fifth: Actually succeeded in modifying the conditions of work in some child employing industries because the employers had to deal with the city and not with a helpless child, and also because the school, merely thru giving advice, has succeeded in placing an embargo on the supply of child labor.

I have purposely refrained from mentioning any particular cities for it would lead me into endless detail but, if you are interested, find out what Cincinnati accomplished with the messenger service in two or three years under a simple law, or what Boston, or Chicago, or Boise, Idaho, have done without any special law. I could mention a score of places but these have much that is appropriate for our particular children.

So much for what has been accomplished. In the remaining minutes I wish to suggest that the National Child Labor Committee might well seek, as a part of its great work, to influence every considerable school

system in the country to do at least two things for our children, first, to throw open to unprogressive children who, at thirteen years of age are contemplating going to work as soon as possible, such of the *present* school activities as these children can engage in profitably. (Nearly all of the manual training and the homemaking courses come into this category); second, that the school authorities establish a system of individual, cumulative records of all children at work between fourteen and sixteen or preferably eighteen. Where no compelling law exists even a voluntary registration of working children by school authorities would do unlimited good.

This is no idle dream. Again I could spend an hour with illustrative examples of the possibility and desirability of such a procedure.

The crime of our public school system is that we lavish care on our pupils in direct proportion to the number of years they can stay in the school, and treat with *especial* consideration those who enter the professions. How watchful we are to help the doctor, or lawyer, or teacher to understand the exact conditions under which he is to work. How solicitous that his first steps in his life work be carefully supervised by his training school, but how thoughtlessly we allow those at the other extreme to drift out of the care of the school authorities. Cumulative school and employment records for all children between fourteen and eighteen would cost comparatively little, yet would have a profound influence both upon the school and upon the child-employing industries. I hope I have made it clear that the school *needs* this influence quite as much as the industries. I trust you will see how slight a reed he leans on who says that "the best child labor law is a compulsory education law." We must teach the teachers about "the other child." Show them that with the other child the watchword must be optimism and encouragement, and that the curriculum must be made more flexible. Show them that the first principle of education with the other child is to establish the habit of successful effort. Show them that the only way to make "students" out of these children is to excite their curiosity about *things* and how to *do* them, real things which the children know and see the need of in their daily lives. Show them that they must fix the vision of these other children on something less remote than the *completion* of "a good education," which for them generally means a long term of years in school and which is obviously impossible. Teach these teachers to concentrate on the successes of today.

"Look well to this day, for it is life, the very life of life.
In its brief course lie all the verities and realities of your existence; the bliss
of growth, the glory of action, the splendor of beauty.
For yesterday is but a dream and tomorrow is only a vision, but today well lived
makes every yesterday a dream of happiness, and every tomorrow a vision
of hope.
Look well, therefore, to this day."

I am convinced that the influence of the National Child Labor Committee might well be lent to reducing not only the suffering of children in the factories and mills but also the suffering of children in the schools. Both ends will be furthered, I am sure, if the public school systems can be induced to assume this new function of giving vocational information and training and of exercising employment supervision, during two years at least, for the benefit of *the other children*.

INTEREST IN THE ABOLITION OF CHILD LABOR IS
STEADILY GAINING GROUND. HAND IN HAND WITH
IT MIGHT WELL GO AN EFFORT TO ENFORCE CHILD
LABOR IN A NEWER AND A BETTER SENSE. IN-
STEAD OF ALLOWING CHILDREN TO BE SACRIFICED
TO THE FINANCIAL GREED OF EMPLOYERS, ANY FI-
NANCIAL OR OTHER SACRIFICE SHOULD BE MADE TO
GIVE THEM A CHANCE TO LEARN HOW TO WORK
UNDER CONDITIONS THAT RESTRICT THE AMOUNT OF
EXERTION TO THEIR BEST PHYSICAL, MENTAL, AND
MORAL DEVELOPMENT. ONLY WHEN THE GIRL WAGE
EARNERS HAVE SUCH AN OPPORTUNITY TO BECOME
MORE EFFICIENT AND EARNEST WORKERS CAN WE
HOPE FOR BETTER HOMES. WITHOUT IT IS THE
PUBLIC SCHOOL FULFILLING ITS DUTY TO THEM?—
Florence M. Marshall.

AN ENDOWED TRADE SCHOOL IN A LARGE CITY.¹

LEWIS GUSTAFSON.

THIS paper is a report of the aims, activities, and results of The David Ranken, Jr., School of Mechanical Trades in St. Louis, and is offered for your consideration because the Ranken School is an example of the privately endowed trade school operating in a large city in full sympathy and cooperation with the public schools tho not as a part of the public school system.

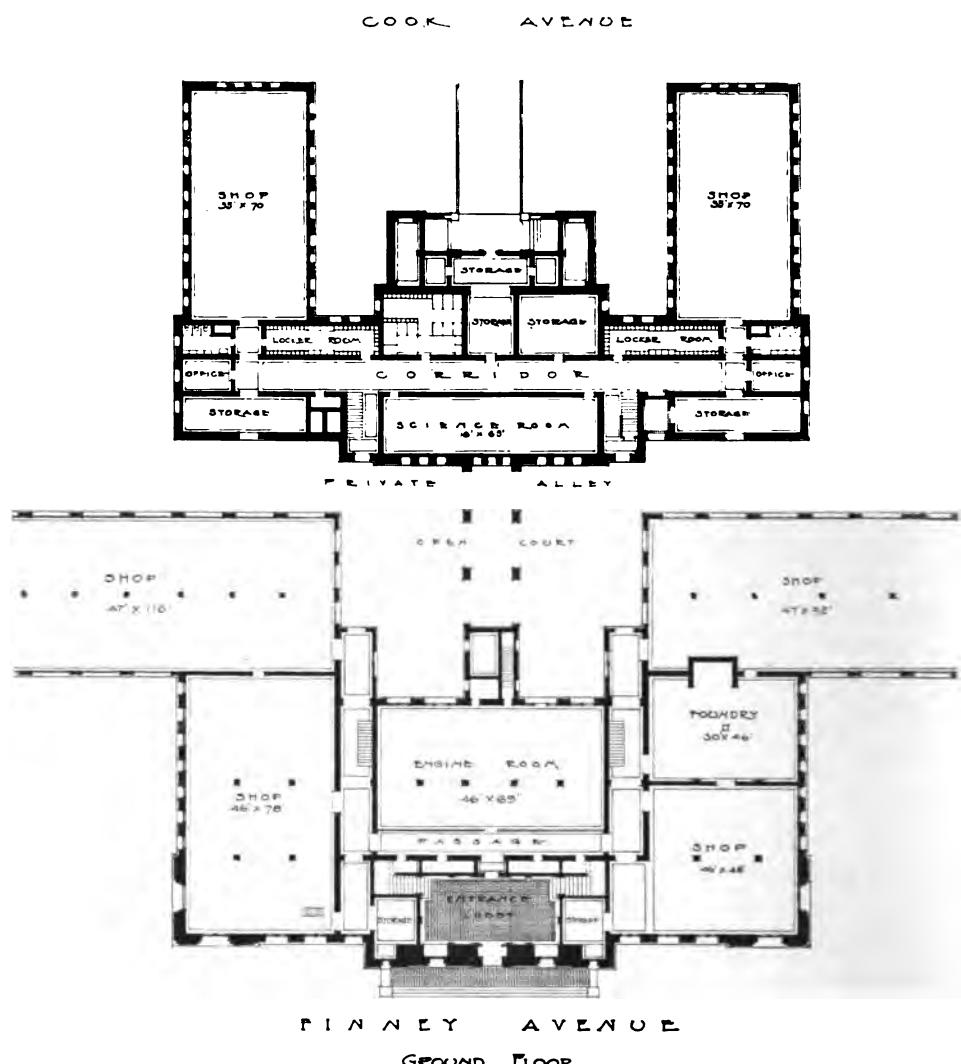
The school was founded in 1907 by the late David Ranken, Jr., a wealthy bachelor about 70 years of age, who turned over to a self-perpetuating board of trustees property to the value of a million and a half dollars, with the injunction that it be used for the organization and maintenance of a school for "training and fitting boys and men for the mechanical or manual trades and occupations." In making this gift Mr. Ranken stipulated that the instruction to be given must always be practical, "having in mind the need of the community and the state for practical workers in mechanical trades, who shall be skilled in their respective trades and occupations and have such education as will best fit them to serve the community and the state in such occupations." Later, in 1910, Mr. Ranken supplemented his original gift with an additional million and a half, making the endowment approximately three millions. The school opened in September, 1909, and is therefore in its fifth year.

Instruction is given in day classes, in evening classes, and in a cooperative course for apprentices. The instruction offered in the day classes covers carpentry, bricklaying, plumbing, sign painting and decorating, pattern-making, machine-shop practice, applied electricity, and steam engineering, with drafting, mathematics, applied science, and English composition as supplementary subjects.

THE REGULAR DAY CLASSES.

The regular day trade courses are two years in length. Students are in attendance seven hours a day for five days in the week for ten and a half months in the year, that is, from the first of September to the middle of July. Each student spends three-fifths of his time in the shop,

¹ Read before the Richmond meeting of the Department of Superintendence
N. E. A., Feb., 1914.



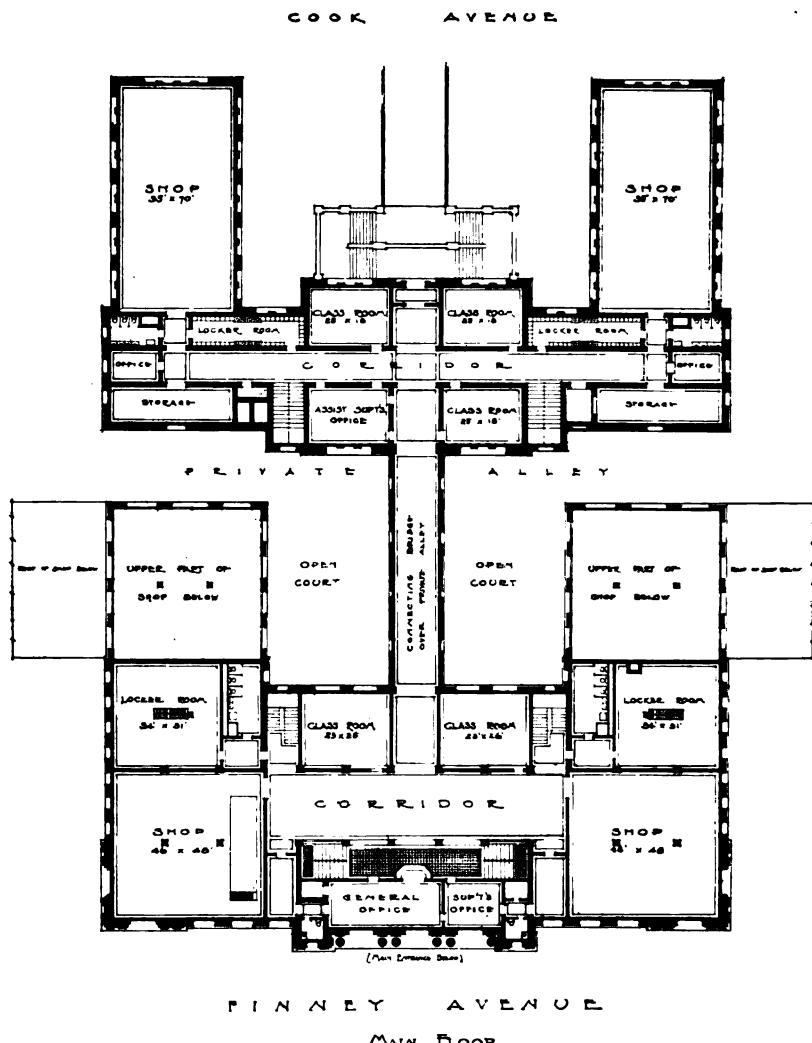
GROUND FLOOR PLAN, DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

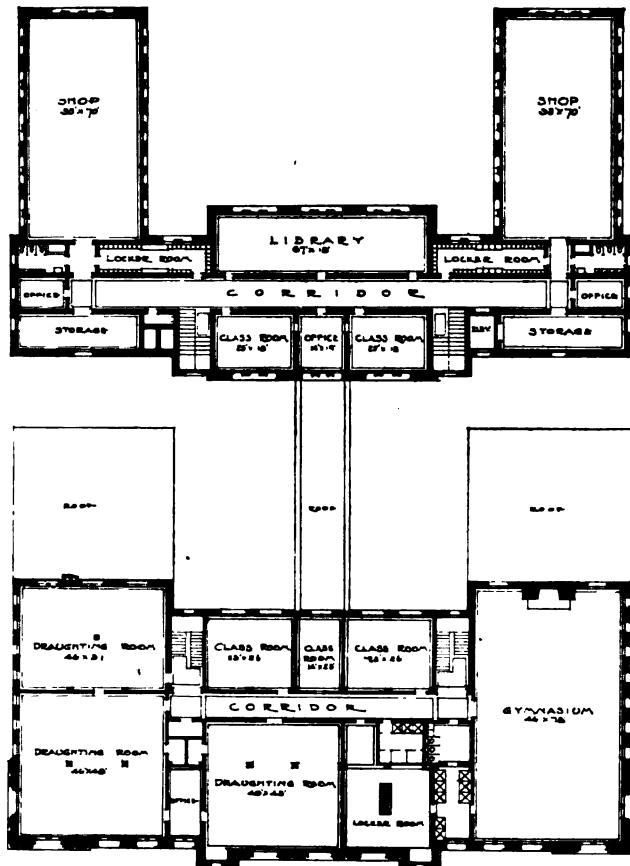
working with the tools of his trade, in the belief that skill with the tools is the great fundamental essential. The rest of the time he spends in the classroom. The aim is not only to give the pupils the hand skill and practice they need so that they may become working journeymen in their trades either immediately after graduation or in the shortest possible time thereafter, but also to give them such a working knowledge of blueprints, calculations, and scientific principles underlying their trades as will enable them eventually to rise to positions of responsibility or to go into business for themselves.

The shopwork in all cases consists of the actual trade operations, with actual trade tools, under the direction of instructors who have had successful experience as workers in their trades. All equipment is commercial equipment. Everything is made to full scale. From the beginning each student becomes familiar by habit with standard measurements and standard practices, so that the transition from school to building or from school to factory may be as natural as possible. In the supplementary instruction all matter not bearing on the trades has been eliminated. At every point possible the practical application of the subject matter has been emphasized. Traditional courses of study have been sacrificed to the needs of the future worker in his trade. In mathematics, for example, the students cover thoroly certain parts of algebra, geometry, and trigonometry in two years. They cannot pass a college entrance examination, but they can use their mathematics as a tool. The present enrolment in these regular trade classes is about one hundred and eighty. The tuition fee is thirty dollars a year.

THE PREPARATORY COURSE.

When the school was first opened in September, 1909, students were admitted who had reached the age of fifteen and had completed the sixth grade. A persistent demand, however, on the part of the fourteen-year-olds who had completed the sixth grade was responsible in 1911 for a lowering of the entrance age to fourteen and for a slight increase in the length of the course. Beginning with September, 1914, the regular trade classes will be open to boys of sixteen for a two-years' course. Boys between fourteen and fifteen will be assigned to a year of general preparatory instruction. Boys between fifteen and sixteen will be assigned either to the preparatory division or to the regular trade classes as seems best in individual cases.





UPPER FLOOR
THE DAVID RANKEN JR.
SCHOOL OF MECHANICAL TRADES
ST. LOUIS, MISSOURI.

UPPER FLOOR PLAN, DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

The curriculum of the preparatory course will provide for supplementary instruction for half of each day and for shop instruction the other half. This shop instruction will consist of work in wood and metal with the idea of training the student to know these materials and to handle properly the carpenter's saw, hammer, and chisel, the tinner's



WORK DONE IN DAVID RANKEN JR., SCHOOL OF MECHANICAL TRADES.

snips and soldering iron, the machinist's chisel and file. It is the hope that a year of this work will give the student a more reasonable basis for his choice of a trade and will enable him to learn that trade more effectively after he has chosen it. The supplementary instruction will probably not differ materially from that in the regular course.

The students in the cooperative classes number about forty. These are apprentices, mostly of the shops of the St. Louis branch of the National Metal Trades Association, apprenticed to their employers for a term of either three or four years under promise of learning the shop-work in the factory. They are sent to the school two half days (seven hours total) each week for two years on full pay, the employer paying the school fifteen dollars a year for tuition. The subjects covered in

the instruction are drafting, mathematics, and applied science, adapted to the needs of future machinists.

The present enrolment in the evening classes numbers over four hundred. The instruction is along the same general lines as the instruction offered in the day time but with a greater flexibility of choice for each student and with a more varied adaptation to the needs of individual workers already engaged in the trades. Two of the evening classes are of especial interest: the first is a class in the drafting of ornamental plastering details introduced for the benefit of the apprentices of Plasterer's Local No. 3, at the request of the Union, and the other is a class in sheet metal pattern drafting introduced at the request of the Sheet Metal Contractors Association for the benefit of their apprentices with the Union's consent and approval. The evening classes are in session from seven-thirty to nine-thirty four evenings each week from October to March inclusive and the students pay a tuition fee of from five to twenty dollars for the season.

The growth of the school since its opening four and a half years ago has been steady. The total enrolment the first year was 247, the second year it was 465, the third year it was 526, and last year it was 722. This year it will be still higher. Seventy-nine students have been graduated from the regular day trade classes. Of these fully eighty per cent have secured employment at their trades or at occupations for which their training at the school fitted them. A number of these have been admitted to the unions, either as advanced apprentices or as journeymen.

In addition to the graduates, a number of those who did not stay to complete their course have done admirably in the trades they pursued while at the school.

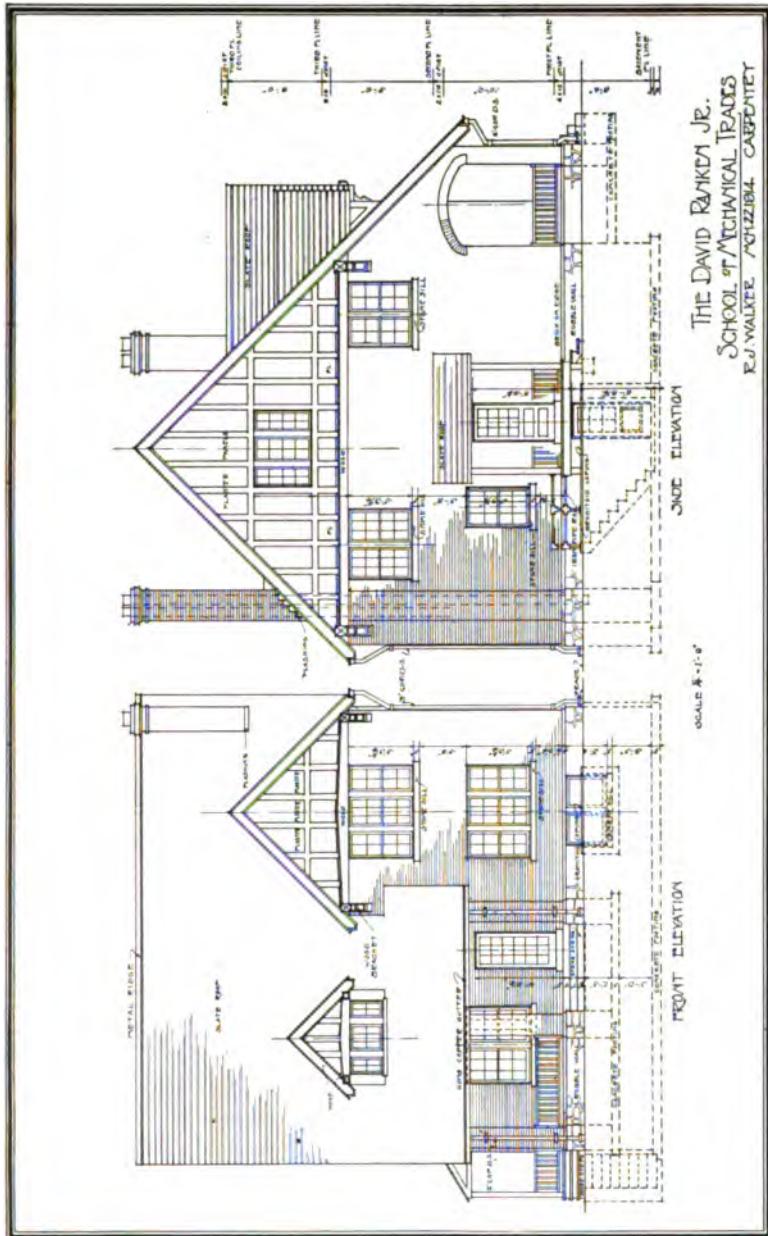
RELATION TO CULTURE.

The charge could easily be made that such an institution is narrow, utilitarian, uncultural. The reply to such a charge would be that any school founded for practical, plain, and simple instruction in the mechanical trades and with a student body financially unable to prolong its school life indefinitely must be a highly specialized sort of institution, designed to accomplish certain definite results in a limited time, in duty bound to concentrate on those things for which it was founded. At the same time it is pretty generally recognized that culture does not reside alone in bookish things, and that the work of the hands and of the mind

<p>Course I^a Exercise No. 30. <i>Bells for Speaking Tubes or Interior Telephones.</i></p>	<p>Course II^c. Experiment No. 11 <i>Current Relations in Parallel Circuits containing Resistance, Inductance and Capacity</i></p>	<p>A. measures the Total Current. B. measures the sum of Loading and Leaking Current. Run the Generator at rated Voltage and take one reading on each instrument.</p> <p>Speed = Voltage =</p> <table border="1"> <thead> <tr> <th>No. of Circuit</th> <th>Current A.</th> <th>Resistance ohms</th> <th>Inductance inductance</th> <th>Capacity in microfarads</th> <th>E.I. Factor</th> </tr> </thead> <tbody> <tr><td>Resistor</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Call</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Grounding</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Telephone</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Line</td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	No. of Circuit	Current A.	Resistance ohms	Inductance inductance	Capacity in microfarads	E.I. Factor	Resistor						Call						Grounding						Telephone						Line					
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Either station may call up any other station or be called up by them. Only one battery is used. From one of its poles one wire connects to all the push-buttons. From the other pole one wire passes to one binding-post of each bell. From the other binding-post of each bell wires are run to the corresponding push-buttons at each of the other stations.

E. Kriegel.



A PROBLEM IN ARCHITECTURAL DRAFTING.

on concrete things may be made a medium of high cultural value. In this particular instance the cultural value of work in the concrete is supplemented daily by human interests and human intercourse in shop and classroom, lunchroom, library, gymnasium, and athletic field, by a happy and wholesome school atmosphere, and by a liberal sprinkling among the student body of pupils who have completed one year, two years, three years, or even four years of work in the city high schools.

The bearing of all this and the application of all this to public school systems opens a field for much debate. That a progressive trade school on a liberal scale may be operated liberally and successfully in a large city in cooperation with the public schools, that it may be carried on with the cooperation of employers and of workmen, that it may be operated in such a way as not only not to antagonize labor but in some cases even to gain its active support, and that its graduates may find a successful career in their trades opening up before them, the short experience of the Ranken School seems amply to demonstrate. That every large city should have a highly specialized trade school of the Ranken type seems in the light of modern industrial experience and past discussions not to require further demonstration. But whether the public school system of a city should endeavor to establish and maintain out of public funds such a highly specialized school is another matter and one open to serious question. To begin with, a trade school costs much money for equipment and maintenance; it reaches only a small part of the community; in reaching this small part it must tax the many for the benefit of the few. No school can teach all the trades. It must therefore make a selection; and in making this selection it must subsidize and foster a few occupations at the expense of the rest.

To my mind the public school system may better concern itself, at least first, with vocational guidance, with prevocational or preparatory trade training of a more general nature, with part time and cooperative instruction for boys and girls already in the industries, and with evening instruction of a technical nature suited to the industrial needs of individual workers. But in suggesting these activities I must urge that all education to be vocational must draw its content from the vocations and make its application to them, that to be industrial it must draw its content from the industries and make its application to the industries, that to be efficient it must analyze its pupils as to their vocational and industrial needs, and that to be honest it must be administered with suitable equipment by suitable instructors with teaching ability who know their subject-matter at first hand.

THE RICHMOND CONVENTION
OF THE
DEPARTMENT OF SUPERINTENDENCE.

WILLIAM T. BAWDEN.

THE annual convention of the Department of Superintendence of the National Education Association was held in Richmond, Va., February 23rd to 28th, 1914. It is reported that this was the largest meeting of the Department that has ever been held, with approximately 2,500 in attendance. The number of allied organizations holding meetings during the week with the Department of Superintendence is still growing. The printed bulletin issued by the Department for the 1914 convention contained the programs and lists of officers of 16 other societies and conferences.

The two expeditions south of the Mason and Dixon's line on the part of the Department in recent years have both met with rather discouraging receptions on the part of the weather man. In Mobile in 1911 and again in Richmond in 1914, the pilgrims to the "Sunny South" encountered severely cold weather and storms which according to the memory of the oldest inhabitants had not been equalled in years. In both cases, however, the coldness of the weather was more than made up by the cordiality of the southern hospitality.

The programs of the various sessions and conferences contained a considerable number of addresses of special interest to students of vocational education. The two sessions on Wednesday were given up entirely to a discussion of problems in this field. The topic for the afternoon session was: "Part-time, Continuation, Shop, and Trade Schools." The speakers were Supt. R. J. Condon, Cincinnati; Supt. H. P. Hughes, McComb, Miss.; F. W. Thomas, Supervisor of Apprentices, Santa Fe Railway System, Topeka, Kan.; Supt. Lewis Gustafson, Ranken School of Trades, St. Louis. Mr. Gustafson's paper appears elsewhere in this number.

LIBERAL AND VOCATIONAL EDUCATION.

The topic of the morning session was: "Fundamental Distinctions Between Liberal and Vocational Education." The first speaker was Dr. David Snedden, Commissioner of Education for Massachusetts, who gave a forceful and effective exposition of the position with which he has become identified during the past few years. He maintains that

vocational education and general education are essentially different in aim, content, and method. In his opinion these two types of education should have separate schools and separate administration. The argument for the distinction rests partly upon expediency, and upon the desirability of getting things done by the easiest and most expeditious methods; but more fundamentally upon the distinction which Dr. Sneden draws between the two chief functions of the individual as consumer and as producer.

The following extracts will serve to give the main features of Professor Bagley's address on the same subject.¹

It is possible to contrast vocational education with cultural education from a number of different points of view. The contrast that appeals to me as most fundamental and thoro-going is based upon the necessity of providing thru vocational education for specialized efficiency in some one occupation, and of providing thru liberal education for adaptability to changing conditions.

If we grant this as at least one important difference between the two types, we have a possible explanation of the relative obscurity of aim which is charged so frequently against what we call liberal education. Vocational education deals with a specific and tangible problem. Liberal education with a very complex problem, and a problem that is highly resistant to helpful analysis. The grave danger lies in our tendency to infer from this difficulty of analysis to the unwarranted conclusions that the problem is not really very important, or that we can dispense with its solution. The great difficulty lies in the fact, not that the aims of liberal education are inherently obscure, but rather that they are inherently remote, and inherently broad and comprehensive. Because "social efficiency," for example, or "adaptability," or "morality" are so broad as to make analysis difficult, it does not follow that they are unimportant, or that we are to replace them by narrower aims. What we must do is to analyze them, and find what intermediate ends must be interpolated, so to speak, between our practical work-a-day teaching task and the remote end that we seek.

In certain respects, liberal education has accomplished this task. It has recognized the importance of mastering certain units of knowledge which represent certain large and admittedly important phases of human experience. This has been a definite aim, looking toward a more remote

¹ Professor Bagley's address is published in full in *School and Home Education*, March, 1914, from which these paragraphs are quoted.

goal ; and, while the exact connection between the immediate aim of getting lessons and passing examinations on the one hand, and the remote aim of becoming efficient on the other hand, has often been lost to view, the solid fact remains that getting lessons and passing examinations has done something to secure the desired results. We are hearing so often today these charges that the traditional methods and processes of teaching have been utterly futile that we are coming to take the statement as a fact without asking for the evidence. The evidence for these sweeping indictments has, so far as I know, never been presented. There is abundant evidence that we fail lamentably with certain individuals, and that we fail to realize some of the possibilities with all individuals. But, after all has been said, that policy which emphasizes the systematic mastery of race experience as the basic condition of human welfare and human progress is clearly established. * * *

Let us pass to the practical difficulties which beset the application of Dr. Snedden's doctrine. In the first place, it is clear that there is no sharp distinction between a man as a producer and as a consumer; a man does not produce during so many hours of the day, and then consume or utilize during the remainder of his time. As a producer, he is also a consumer. In his vocational life, he is utilizing the skill that he has learned from others, or developed for himself; he is utilizing the tools that others have invented; he is utilizing the principles and rules of procedure that have come to him from the past experience of his fellow workers: he is utilizing the ideals, the standards, and the tastes that the race has wrought out of its long experience.

What phase of education is to be responsible for the inculcation of the skills, tools, principles, ideals, standards, and tastes which he utilizes as a producer? Obviously both his vocational education and his so-called liberal education will contribute each its own share. Is a man who is consuming literature and art adding to his vocational efficiency? Certainly if he is not gaining new strength, new standards, new enthusiasms for his daily work his recreative activities are a pretty costly luxury.

Again, there are certain fundamental activities of life which I defy anyone to classify satisfactorily as either predominantly productive or predominantly consumptive. Take, for example, two activities of life with which education by common consent must be intimately concerned —the activities involved in citizenship and the activities involved in the home relations. When a man is a good citizen, is he a producer or a consumer, or both, or neither? We may say, perhaps, that he is producing good government—in which case, training for citizenship is, by Dr.

Snedden's definition, vocational training. Consequently training for good citizenship belongs in a separate vocational school where it will not be confused, and rendered ineffective by the processes that are preparing pupils to be consumers—that is, if the producer-consumer theory means anything. This, of course, is akin to word quibbling; but it simply illustrates the absurdity of applying economic concepts to a field that they do not include, and with which their relationships, while important, are upon an entirely different level than that contemplated in the application. The same strictures could be passed upon the attempt to cover home activities by these concepts. They simply will not fit. They confuse rather than help. The housewife is both a producer and a consumer, and the activities are so intimately interwoven that any attempt to separate them leads to hopeless confusion. Even if we take the mere matter of esthetic adornment, while we may say that a woman consumes the artistic products of others, she is producing, or trying to produce something—attractiveness, let us say—for others to look upon and admire, that is to consume. * * *

One further objection, however, I should urge against this distinction: and that is that it perpetuates an older prejudice under which the so-called liberal education already suffers too much. I refer to the notion that the liberal education is in some way opposed to the "practical" things of life. It is natural that this notion should have held sway at the time when liberal education was the prerogative of the leisure class; but even then it did not always or perhaps often mean "impracticality." It meant efficiency of a sort different from that which we should include under the head of technical skill. It meant often productive efficiency of a high order, and not alone capacity for utilizing the products of others. It often meant, as it often means today, constructive leadership, the highest kind of productive efficiency.

But the old distrust of liberal education still clings, in spite of the fact that human freedom owes largely to liberal education its existence today; in spite of the fact that the surest measures of a nation's station in the scale of civilization is most clearly indicated by the extent to which liberal education is diffused among the masses. Our public schools are branded today as a failure by the more radical advocates of the very plan that Dr. Snedden is proposing. Yet with a predominantly liberal program, characterized by all the vagueness that Dr. Snedden has described, these schools have succeeded in saving us from the fate of Mexico and Bulgaria and Spain and Russia. * * *

Toward a constructive differentiation of the two terms under discussion, I should offer the following suggestions:

First: That the distinction between vocational and liberal education which is now current in our discussions be replaced by a distinction between specific education on the one hand and general education on the other hand. Here the differentiating principle would be extremely simple. Educational materials and processes which are of chief or exclusive value in training for specialized occupations or modes of life will comprise the materials and processes of specific education. These materials and processes which will be of probable value to every individual whatever his specific occupation or mode of life may be will constitute the content of general education.

If desired, specific education may be divided into subordinate types, of which vocational education (as we now understand the term) may be one. General education may also be subdivided into at least three well recognized types. The first of these is most clearly represented by the typical elementary program of studies. It comprises those habits, skills, knowledge, and ideals which must be made the common property of all: (1) the arts of speaking, writing, and reading, and the fundamental arts of computation; (2) the specific habits and general ideals that make up the universal social amenities—good behavior, deference to age and womanhood, respect for the authority of the law as representing the collective will of society, and social service; (3) the habits and ideals that make for personal and social health; (4) the habits and the information representing fundamentals of good citizenship; (5) the basic facts of geography and of national history; and (6) those methods of work that are applicable to all types of human endeavor so far as these can be made the common property of all individuals during the period of compulsory education. This type of general education should have a name which I am not ready to propose, but I shall call it for the sake of convenience, fundamental education. * * *

A second type of general education, I shall call liberal education. Its primary aim will be to make the individual adaptable to changing situations. It will equip him, not so much with specific skill in the narrow sense, for this is the function of fundamental and vocational education which prepares for situations that can be predicted with reasonable certainty; but liberal education will deal rather with explanatory principles which will give the individual the possibility of a rational control over new situations, the precise nature of which we cannot foresee, but which we are morally certain will arise in his life. * * *

My contention in the present connection is that we have here a type of training coeval in its importance with fundamental education and vocational education. In considering a national policy of education, this type needs perhaps the greatest emphasis, for it is the liberal education, interpreted in this way, and made universal among the people, that makes a nation truly great. It is an education of this sort that inevitably leaves its stamp upon every act of a man's life. It is for this reason that I protest against identifying liberal education exclusively with the training of the consumptive or utilizing capacities. I protest, too, against the theory that this type of education is merely for "adornment" or for "enjoyment." * * *

A third sub-type of general education I should call cultural, and while the distinction between the liberal education and the cultural education should not be sharply drawn, I should think of the latter as essentially the education that prepares for leisure. Literature and art and music and healthful sports all have a function here altho each may also have a function under one or another of the heads already discussed. This is the type of education that does train the consumer in the sense in which Dr. Snedden uses this term. It is important, and must not be neglected; but again, it is a mistake to think that all education which cannot be justified upon the basis of its specific vocational value must either seek justification as a preparation for leisure or surrender its claim to a place in our schools. * * *

And, now, a final word with regard to the bearing of these distinctions upon the problem of educational administration. Dr. Snedden argued from the distinction between productive and consumptive activities to the conclusion that vocational education and general education are essentially different in aim, content, and method, and therefore demand separate schools and (some would add) separate administration and separate taxation. If my own analysis is correct, all forms of education are most intimately connected and correlated. Nay, more than this, every curriculum proposed for a boy or a girl should represent in a fair proportion each of these distinctive types of training. We shall grant the necessity for intense specialization in vocational subjects; we should not grant for a moment the wisdom of making any vocational curriculum so intense that the liberal or the cultural should be neglected.

The arguments for separate vocational schools are commonly arguments from administration expediency. Dr. Snedden's plea is more fundamental than this, for he urges these basic differences between the

two types of education to support his contention. The aims are different, he says, and the methods must consequently differ. But, as I have attempted to point out, the aims differ only in degree, and not in kind. With a more adequate analysis of the remote aims of liberal education, we shall have these interpolated aims approaching in definiteness the aims of vocational education. And one reason why I should protest against the proposed division lies in the fact that the competition of liberal education with definite and tangible vocational subjects will hasten this analysis, and compel the formulation of these interpolated aims. This process is already going on in some schools—indeed one of the most successful attempts that has thus far been made to formulate concrete values for a traditional subject has been in connection with that bug-bear of the secondary program, Latin. If I mistake not, it was this very competition with vocational education that worked this desirable miracle.

Nor should we overlook the influence which concrete vocational interests may have in making meaningful and vital the more general and abstract principles and processes with which liberal education deals. That correlations between vocational and liberal subjects may be worked out with great profit to both, and without destroying the integrity of either, I have no doubt. I know that it has been effectively accomplished in certain cases.

Against the dangers of social stratification that are inherent in separate vocational schools, even upon the secondary level, warnings innumerable have been voiced; and so far as I know, these predictions have never been answered except by the question-begging statement that such stratification already exists. Even granting its existence, we can see no good reason for extending it or for making it still more rigid. A stratified society and a permanent proletariat are undoubtedly the prime conditions of a certain type of national efficiency. But wherever our people have been intelligently informed regarding what this type of efficiency costs, they have been fairly unanimous in declaring that the price is too high. As a people, we are pretty clearly committed to the theory that talent is distributed fairly evenly among the masses, and that it is the special prerogative of no single class or group. As a people, we are fairly firm in our faith that this latent talent may be trained to high efficiency in practically every case. We mean to keep open the door of opportunity at every level of the educational ladder. It is a costly process—but so are most other things that are precious and worth while.

ADDRESSES OF INTEREST.

Limitations of space forbid more than a mere mention of a number of other addresses of special significance: at the Tuesday evening session—"Education and Social Economy," by Dr. E. T. Devine, New York School of Philanthropy; "Announcement of the National Vocational Guidance Association," by Asst. Supt. G. P. Knox, St. Louis; at the Thursday morning session—"The Foundation of Educational Achievement," by Professor E. L. Thorndike, Teachers College, New York; at the Round Table for Cities of 25,000 to 300,000 Population—"Substitution of Work of Vocational or Prevocational Character," by Supt. W. A. Greeson, Grand Rapids, and Supt. I. I. Cammack, Kansas City, Mo.; at the Friday morning session—"Rural School Administration," a collaborated paper by Professor E. B. Cubberley, Leland Stanford Junior University, and Professor E. C. Elliott, University of Wisconsin; at the Tuesday morning session of the National Council of Education—Report of the Committee on "Standards and Tests of Efficiency," Professor G. D. Strayer, Teachers College, Chairman; at the Wednesday afternoon session of the Department of Normal Schools—"The Preparation of Teachers and Supervisors for Industrial Branches and Other Special Lines," by Professor L. J. Corbly, State Normal College, Huntington, W. Va., and Pres. J. W. Crabtree, State Normal School, River Falls, Wis.; at the Thursday afternoon session of the Department of Normal Schools—"The New Branches of Study, New Problems and New Ideals," by Pres. Carroll G. Pearse, State Normal School, Milwaukee, Wis.; at the Thursday afternoon session of the Commission on Reorganization of Secondary Education—"How Should the Time Devoted to Social Studies in the High Schools be Divided Among Community Civics, Survey of Vocations, Economics, and History?" by T. J. Jones, U. S. Bureau of Education, Washington, D. C.; at the Wednesday afternoon session of the National Committee on Agricultural Education—"How May Agriculture and Domestic Science be Successfully Taught in Rural Elementary and High Schools?" by A. C. Monahan, U. S. Bureau of Education, Washington, D. C.; at the Thursday morning session of the National Committee on Agricultural Education—Preliminary report of the Committee of the North Carolina High School Association on "Vocational subjects in High School and College with special reference to Rural High Schools," by N. W. Walker, State High School Inspector, Chapel Hill, N. C.

At the business session it was voted to hold the 1915 convention of the Department of Superintendence in Cincinnati.

A RECENT EDUCATIONAL DEVELOPMENT IN GERMANY—THE COMMERCIAL COLLEGE.

E. GEORGE PAYNE.

IN 1901 a young man, just graduated from a German higher school, the *Realgymnasium* in Bonn, wishing to enter the business of his father, a patent leather manufacturer, found his preparation inadequate for the task he wished to perform. He began to seek information regarding schools which might supply him with the desired training. There was the celebrated University of Bonn at his very door, a university that had taken fourth place in point of attendance among the German universities, having attracted to its faculty a body of expert instructors of wide reputation and eminent ability. Yet he could not bring himself to the point of giving his time to this famous institution. The institution had so far sensed the growing demand of the new industrial community in which it was located that it offered some courses relating to commerce and industry, but it had remained primarily a university of the old type. Fortunately in the city of Cologne, forty minutes from Bonn, was established in this year a commercial college at the head of which was a vigorous young man of wide experience, of university training, and with a knowledge of commerce and industry, perhaps not possessed by any other German, Professor Herman Schumacher. Professor Schumacher received the highest prize at the World's Fair in St. Louis three years later for having developed the best commercial college in the world.

This young graduate sought entrance to this infant college of commerce, because nothing better offered, and was admitted. He devoted two years to study in it. He selected his studies widely from the numerous courses offered during the two years of his studium, but devoted his time principally to commerce with special reference to his father's business. He learned everything there was to know about patent leather, where it was manufactured, how used, possibilities of future use, how to put it on the market, possibilities of increasing the sale by extending the trade in the market already established and in creating a new market. After receiving his degree he returned to his father's business with enthusiasm, and convinced him of opportunities he had not thought of for the future. Three years later when I visited the factory, the output had been more than doubled under the influence

of the son, the factory had become the largest of its kind in Germany, and they were planning a further extension of the plant. Incidentally the father, a man of limited school education, had become an ardent advocate of commercial training. Two years of training given to a man of twenty had accomplished more than muscle and experience alone had brought about in years.

This case is merely illustrative of what has been taking place in a large way in Germany during the last score of years. Moreover, we find in the commercial schools, particularly in the commercial colleges, the reason for the increasing importance of Germany in the world's commerce. President Roosevelt in the "Outlook" of December 12, 1913, gives a case illustrating the extension of Germany's commerce due to her commercial education. He says:

The mayor (Bahia, Brazil) mentioned to me that the building of some of the new streets was being conducted by an American firm, and that the trolley cars had come from America; but he expressed the regret that there were so few American business men that seemed to realize the possibilities of Bahia and Brazil generally. Personally I not only regret this, but wonder at it. There is already easy and direct communication from the United States to Brazil. In a very few years the voyage will be done in ten days or less. If American business men will take the trouble to do as the Germans do, and study Brazil, and the desires, needs, and likings of the Brazilians, they will find them first class customers. Of course first class customers stay such only when the goods and the service are first class, and it is necessary to consult not merely the needs but the preferences and the prejudices of the customers—a fact which our business men should bear in mind at the outset of all international dealings.

The need of intimate knowledge of trade conditions and possibilities of commerce at home and abroad led the Germans to establish commercial colleges. They are designed to give the appreciation and understanding of foreigners which Mr. Roosevelt assures us is necessary for successful foreign commerce. Thru their commercial instruction the Germans not only show this intimate acquaintance with Brazil, but they begin to evidence this same appreciation of other nations and peoples, and the knowledge is bearing fruit. It is my purpose, therefore, to present in this article a brief discussion of the work of the commercial college, the conditions that brought it about, and the main purpose it serves.

DEMAND FOR TECHNICALLY TRAINED WORKMEN.

Early in the past century, with the beginning of railroad construction and the development of the machinery of railroad transportation,

with the growth of cities resulting from the general industrial changes demanding building, gas lighting, water fitting, etc., conditions arose demanding technically trained workmen far in excess of the supply. Moreover, the demands required training beyond that which the technical schools of the time could give. Technical colleges resulted, and, with two exceptions, these grew out of the lower technical schools. Berlin in 1821 was the first to embark upon this enterprise and the movement soon became popular. Four kinds of colleges developed, namely: the architectural, the civil engineering, the mechanical engineering, the chemical institute—the latter including the colleges of mines, pharmacy, forestry, and agriculture. The technical colleges have had a remarkable growth in the number of students and in the requirements for graduation. In 1899 they enrolled more than 15,000 students, and in that year the school authorities in Prussia granted them the right to confer the doctor's degree, thus placing them in the same rank with the German university, or with the graduate school of the American university.

The technical colleges therefore provided training for every field of industrial activity save that of commerce. The success of the instruction in the various fields showed by contrast the need of commercial colleges that would give to commerce what had been achieved in other lines of activity. The universities, tho conservative, had begun to offer certain courses in economics of a commercial nature desiring to meet the expressed demand, but that was not sufficient. The need of a commercial college comparable to the technical college had come to be felt by the commercial classes themselves and they were not satisfied with half-way measures. Moreover, the universities were meant to serve the state as a whole, while the commercial college was needed and finally established to serve primarily the city in which it was located. As will be seen later, the commercial colleges were not meant to serve the commercial interests of the city narrowly, but thru the provision of commercial training to serve the city's whole life, that the commercial and other classes might not work at cross purposes but that all might work for the city's highest welfare, including its commercial advance. This difference in general function of the university and the commercial college must be kept definitely in mind in order to appreciate the latter. For instance, each university draws students from all parts of Germany, indeed one might say from all parts of the world. The universities bid for students from other countries offering the same advantages in

courses, tuition, and conveniences to them as to their own students. The commercial colleges, on the other hand, draw largely from the cities in which they are located, and discourage the attendance of foreigners by placing the tuition for the foreign students as high as four hundred dollars a year in some cases.

It is not an accident, then, that the thought of a college education designed especially for commercial classes did not arise in the seaport towns nor in cities of highest general educational development, but rather in those districts located in closest proximity to industry. The commercial leaders learned from the technically trained of allied vocations in industry the value of scientific training, and also the uselessness of the other kind of higher or general training for the commercial classes in preparing them for commercial activities. Therefore, in the cities of West Germany, where industry and commerce are so closely united, where they are for the most part new in their development, where new families, classes, and cities have originated recently, where business traditions failed, and where the necessary factors for industrial and commercial development are abundant or easily accessible, the commercial college thought and activity took deepest root. Here it was that a merchant, feeling the need of such training for the city and its commercial life, provided a private endowment that made possible the commercial college of Cologne, which became later the model for Germany and for other countries.

SPECIFIC PURPOSES OF THE COMMERCIAL COLLEGE.

From the foregoing it is clear that the commercial colleges had given to them, from the first, a specific task to perform. The commercial college, moreover, started with a specific purpose, understanding that it was to be judged by its ability to fulfill its function. The main purposes, then, are to provide an intensive general and commercial education for young men wishing to devote themselves to the general commercial callings; to provide for those wishing to become commercial school teachers of the lower commercial schools opportunity for the necessary theoretical and practical training; and to provide training for consular officials, secretaries of boards of trade, commercial and civic clubs; to provide opportunities to the general public to acquire general and special knowledge along the lines in which it is interested; and finally to offer possibilities for further training in the special departments of

commercial science to practical merchants, trades people, and employes in allied vocations.

Of the five general purposes of the commercial college just mentioned, the most important is the training for leadership in commercial vocations; most of the others are coming gradually to be taken care of by other institutions as the number seeking advanced commercial education increases. A general function, however, that these institutions will most probably always serve is that of providing public lectures, given in the late afternoon and evening to afford general and special training for the public at large. The professors, specialists engaged in commerce and industry, and university professors when the university is close enough for the college to command the instructors, as at Cologne, are called into service to give lectures on art, literature, philosophy, economics, history, sociology, etc. They are given so that the citizens may take advantage of them. They are offered with the announced intention of making the college the center of the higher intellectual life of the city. As I have observed the work of these colleges I have felt that these public lectures are by no means the least important function of the institution, tho the instruction does not serve commerce directly. It does fulfill an increasingly felt need in the community life and conserves energy to useful activity that might be otherwise dissipated. These lectures develop city pride by giving the public an understanding and an appreciation of the city's achievements; they create active local patriotism by unifying the ideals of the citizens; and, finally, they direct that abundant surplus energy into constructive criticism and improvement making for the realization of the highest ideals of the city, thus preventing wasted energy in useless destructive criticism.

The requirements for entrance to the commercial college shows the type of work the institution stands for. The completion of the course in any of the German higher schools, the equivalent of the American high school plus two years of the American college, is the general requirement for admission to study for a degree. The preparation for entrance may be had in the lower commercial, technical, or general schools. There are, however, some exceptions to this general entrance requirement. Merchants who have had successful experience in business and have had a course the equivalent of three years of the American high school, may be admitted to some of these institutions. There is, however, strong opposition on the part of most of the commercial colleges to the admission of such persons for fear of lowering the scholarship of

the institutions. As the name of the institution (*Handelshochschule*) implies, it is the general wish of the faculties and the people too that the colleges maintain the rank of the university in the character of the work they do. As they have first to establish their reputation for scholarship they very naturally object to the lowering of entrance requirements. Of course, these entrance requirements apply only to those seeking a degree. As was pointed out above, any one may study in these schools and attend the lectures.

COURSES OF STUDY.

The course of study, naturally, includes a wide selection of subject matter. As might be anticipated, strong emphasis is placed upon political economy, political science, sociology, and the rapidly developing commercial sciences. The principal subjects, that one may see the extent of the work, may be grouped as follows: 1. Political economy, including financial science with special emphasis upon money, banking, stock and grain exchange, and social politics. 2. Principles of private and public law with special reference to the laws of trade and commerce. 3. Commercial geography, and principles of chemical and mechanical technology. 4. Courses in eight modern languages, Berlin offering practically every modern language. 5. Bookkeeping, commercial arithmetic, and correspondence; and 6. General courses in philosophy, science, and literature. In addition to these courses are offered numerous seminars for the study of practical trade conditions combined with excursions into the industrial, commercial, and social establishments of the city. The city thus becomes a laboratory for the students of the commercial colleges, the city whose spiritual and material interests the college is designed to serve.

The problem of control and support of the commercial colleges was determined from the first. Thruout Germany the commercial colleges, like other schools, are under state control. In Prussia, the Ministers of Education and Commerce exercise joint control, leaving the actual determination of the local policy and management to a local board. Upon this board are representatives of the city always, and usually representatives, variously chosen, from private individuals in case they have contributed largely to the founding or support of the schools and of commercial clubs or chambers of commerce. This sort of board insures that the college will serve the best interests of the city, and the state

control prevents the college from serving the city to the detriment of the interests of the state as a whole in case the city should prove short-sighted enough to attempt it.

The commercial colleges are established primarily for the higher education of the commercial classes, and these classes have from the first contributed to the support of the schools. In most places much of the support as well as the initiative in the establishment and maintenance have come from the commercial people themselves. However, the city from the first, recognizing the need of commercial education, has supported the college liberally, and in most places now it has become a city institution receiving its support largely from the city and from tuition fees. All of the commercial colleges exact a tuition fee. This is the characteristic German policy, and is the case with all schools throughout the empire except the elementary or *Volkschule*. The tuition, however, in the commercial colleges is nominal for the native German, while it is very high for foreigners; yet, interesting to note, every commercial college has some foreign student, and some of them have many; a tribute to the achievements of the Germans in commerce and in commercial education.

THE VIEW-POINT OF THE SCHOOL HAS BEEN RADICALLY WRONG. WE HAVE BEEN ADVOCATING THE IDEA THAT EDUCATION ENABLES ONE TO GET OUT OF WORK, WHEREAS WE SHOULD HAVE BEEN URGING THAT EDUCATION OF THE RIGHT SORT ENABLES ONE TO GET INTO WORK. THAT IS, IT MEANS ENLARGED CAPACITY FOR WORK AND SERVICE AND PROPORTIONALLY ENLARGED JOY AND CONTENTMENT IN THE PERFORMANCE OF WORTHY WORK OF ANY NATURE WHATSOEVER.—William L. McKeever.

EDITORIAL

THE National Society for the Promotion of Industrial Education has just announced the completion of the plans for the eighth annual convention, to be held in Richmond, Va., during the second week in December, 1914. The convention program is to deal, to a considerable extent, with the data and the findings of an industrial and educational survey of Richmond, which is to be undertaken during the coming summer. The Richmond Board of Education is taking the initiative in the movement, ably backed by the Chamber of Commerce, the Business Men's Association, and the Rotary Club, an organization of business men which was formed for the purpose of boosting Richmond.

The Richmond Survey These local organizations have guaranteed a fund of \$10,000 with which to defray the expense of conducting the survey and holding the convention. This fund is to be contributed partly in cash and partly in the services of a number of competent persons now in the employ of the city. The National Society has been asked to assume the leadership in the development of the plans for the survey and in the prosecution of the investigation, and in this capacity it has secured the cooperation of the Russell Sage Foundation and the U. S. Bureau of Labor Statistics.

The Executive Committee of the National Society has appointed a General Survey Committee which is to be responsible for the details of the plans, supervision of the work in progress, and critical study and interpretation of the findings. The members of this committee are: George Coffing Warner, Vice-President of the Society, New York, chairman; J. A. C. Chandler, Supt. of Public Schools, Richmond, Va.; Leonard P. Ayres, director, Russell Sage Foundation, New York; Charles R. Richards, director, Cooper Union, New York; Charles H. Verrill, Editor-in-Chief, U. S. Bureau of Labor Statistics, Washington, D. C.; Leonard W. Hatch, Chief Statistician, New York State Bureau of Labor Statistics and Information, Albany; Charles H. Winslow, Expert in Industrial Education, U. S. Bureau of Labor Statistics, Washington, D. C.; Charles A. Prosser, Secretary of the National Society, New York. The Richmond authorities will organize a Local Survey Committee, to serve as a steering committee for the director of the survey.

The Survey Charles H. Winslow, a member of the committee and an expert on industrial investigations, will be director of the survey, and William T. Bawden, of the editorial staff of **VOCATIONAL EDUCATION**, will be associated with him and in direct charge of a corps of local investigators. The industrial survey will be conducted along the lines developed, in part, by Professor Richards' analysis of the "Study of the Industries for the Purposes of Vocational education."¹ An outline of the questions for which answers are to be sought, and the conditions to be inquired into, has been drawn up in detail by the committee. This outline will be modified as may seem desirable from time to time as the work progresses, since provision has been made for monthly conferences of the full committee with the director.

The plan includes a study of what the public schools are now doing in the way of training boys and girls who enter the industries. This phase of the general investigation is to be made under the direction of Dr. Leonard P. Ayres, of the Russell Sage Foundation. It will undertake to secure only data bearing on the problem of industrial education, without attempting to cover every interesting or helpful point usually included in such school surveys. This part of the study will be confined, therefore, chiefly to inquiry as to the ages at which children leave school to go to work, the amount and kind of schooling they have had, kinds of occupations into which they go, etc. As a model survey, this school study will endeavor to show how the usual public school facilities can be used to gather the same information which in the case of too many surveys has required a considerable force of field investigators and statisticians and a large expenditure of money.

Scope of The Final Report The final report of the General Survey Committee, which is to furnish the basis of discussion at the December convention, is to be prepared with the dual aim of rendering immediate practical assistance to the community of Richmond, and of affording to other communities constructive suggestions for the conduct of similar inquiries. It is hoped that this study can be made on such lines as to serve as a model for other cities. The report will include, among other features: (1) A statement of the organization plan and procedure used in making the survey and preparing the report; (2)

¹ C. R. Richards: How Shall We Study the Industries for the Purposes of Vocational Education? **VOCATIONAL EDUCATION**, Vol. III, No. 3, January, 1914, pp. 159-168.

Suggestions for securing and utilizing public sentiment; (3) Description and explanation of each local situation dealt with, in order to indicate how far it differs from and how far it is similar to corresponding conditions in other places; (4) Presentation, analysis, and interpretation of data; (5) Recommendations as to things that Richmond should do immediately; (6) Recommendations looking toward a comprehensive and progressive program for the future.

It is expected that the actual field work will begin about May 1st, and that the work on the school survey will be concluded before the end of the school year. It is proposed to have the final report on the entire survey completed not later than October 15th, in order to allow ample time for full consideration of the data and the recommendations before the convention.

It is fortunate for the National Society and the cause that the city of Richmond has contributed the money necessary for this survey; fortunate for the Society, because it will have an opportunity to show the stuff of which it is made—a sort of acid test; fortunate for Richmond that it can have the able assistance and backing of men who stand at the front in the vocational education movement.

We will watch with unusual interest the findings of this survey. Richmond is not a great manufacturing center. It is a large and prosperous city, a great distributing center of common carriers and warehouses. It has large tobacco interests and a fair amount of manufacturing. It is not a Cincinnati, a Worcester, nor a Rochester. At the same time, if a vocational education survey is to have the acid test applied to it, let it be in a place where conditions are such that a report of findings will mean far more than it would if offered after a survey of a city whose industrial conditions and opportunities in relation to vocational education offer much simpler solution. —ARTHUR D. DEAN.

State-Wide Study of Agricultural Education The ideal of service which has become connected in the public mind with certain of the state universities in the middle west has received a new exemplification in a recent study undertaken by the Division of Agricultural Education of the University of Minnesota. In a circular letter issued by the Division, Professor A. V. Storm outlines a plan by which it is proposed to develop a clearing house of information concerning the work in agricultural education in the schools of the state and the men who are directing it. Among other things the letter says:

Superintendents and boards of education ask us about the preparation, characteristics, and success of certain men in other towns. Papers are anxious to get news of you and your work for publication. Other states are very much interested in what you are doing. Men come from near and far to ask us about your work and to visit it. New agricultural men, in fact all of them, would be helped by knowing what others are doing. We are planning to promote your interests more fully in all these and other ways.

For the purpose of securing and tabulating the necessary data four inquiry cards, 8x5 inches, suitable for filing, have been prepared, and copies sent to every teacher of agriculture in the state. Each card deals with a distinct phase of the study, and the questions and blanks are so arranged as to require a minimum of writing. The headings on the cards are: (1) School Plot and Extension; (2) Laboratory and Instruction; (3) Library; (4) Teacher.

Facilities for the Work Inventoried The card dealing with the School Plot provides spaces for statements as to the acreage, value, and ownership of the land used; cost of operation, income, and amount of help hired; ownership of machinery and livestock. The significant question is asked, "What has been done in the following lines of extension work: Farmers Clubs, Shipping Associations, Cow-Testing, Farm Demonstration Plots, Soil Improvement, Planning Farmsteads, Rural Social Development," and other lines of effort. The attitude of business men and farmers toward the work is inquired into; means of transportation for students; number of individual gardens on the school plot, and on the home premises. There is also a request to enclose a plan of the school plot drawn to scale.

The inquiry concerning Laboratory and Instruction is equally interesting. It asks for a statement of the approximate value of the permanent equipment for the following subjects, excluding the school plot and machinery for handling it: farm crops, animal and dairy husbandry, farm mechanics, horticulture, soils. Some of the suggestive questions asked are: Have you a laboratory separate from the recitation room?; What are the sources of material for current use in laboratory work?; What phase of the work gives you the greatest difficulty: equipment, material, exercises?; Have you a lantern?; If so, how many agricultural slides have you? The principal topics under farm crops and animal husbandry are listed, and the number of weeks, approximately, devoted to each in the year's work is asked for.

The list of topics on the Library card suggests a simple and convenient scheme for the classification of the reference and text-book material that every teacher of agriculture ought to be accumulating, not only for his students' use but for his own development. The concluding questions with reference to the books are: Are they classified?; Have you an index system?

The questions on the last card call for the usual data concerning the teacher's name, age, academic and special training; amount and character of teaching experience, according to subjects taught; amount and character of practical farm experience, with places and dates; number of classes taught at the present time, classified according to elementary, secondary or normal school grade; names of subjects taught at the present time. The card asks also for the name of the town and its population, and the salaries of the teacher of agriculture, the superintendent, the principal of the high school, the teacher of home economics, and the teacher of manual training.

Stimulating Desire for Improvement As one contemplates the prosecution of an inquiry of this kind, numerous useful results suggest themselves. The first and most obvious, perhaps, is the acquisition of definite and tangible knowledge concerning the actual conditions in this special branch of educational effort thruout the state. The possession of such a body of knowledge will at once put the College of Agriculture in the position of dealing intelligently with problems before it. The study is worth making, even if it does no more than to confirm views and opinions which hitherto have not had a basis in definite and detailed knowledge of the facts; but it is almost certain to do more than this. And if this information is made available to other agencies, as it undoubtedly will be, it is difficult to imagine the value of the ultimate results to the cause of education and to social progress in the state.

But aside from these benefits, the making of this study will exert a positive influence in the improvement of the very conditions inquired into. Many teachers, both young and old, will prove susceptible to the suggestion, conveyed thru these questions, that there are ways in which they can build up their departments, improve their methods, and extend the range of their activities. And such teachers will be all the more encouraged to yield to such suggestions by the knowledge that an interested and personal agency at the state university stands ready at all times to offer definite assistance.

Is there not a suggestion here that might be considered, and acted upon with profit, by other departments of education, city superintendents, county superintendents and state superintendents of schools?

—WILLIAM T. BAWDEN.

AN IMPORTANT CHANGE.

On one of the advertising pages of this issue we have made an announcement of great importance to every one of our subscribers. The announcement states that beginning with September, 1914, this magazine will be combined with the *Manual Training Magazine* to produce one strong monthly publication. This is a long step forward, and one which we believe will be heartily welcomed by our readers. Anyone who has followed the discussions concerning vocational guidance and vocational training during the past two years cannot fail to realize that the great problems in these fields center around the upper grammar and early high school period just before and soon after the child passes the compulsory age limit of schooling. Moreover, it is becoming clearer that the proper basis for both vocational guidance and vocational training as such is a reasonably broad fundamental education which includes instruction in some kind of organized handwork; and further, that this instruction in handwork shall not be too narrow in its scope. As might be expected under these circumstances, the two educational movements which started respectively as the manual training movement and the vocational education movement are rapidly and inevitably converging into one strong current of educational advance. This being so, the time is ripe for bringing together the two magazines which have stood for these two movements. For this reason, and for others stated in the announcement, we are glad to offer to our readers one strong monthly magazine instead of two bi-monthlies.

OF CURRENT INTEREST

A PART-TIME COURSE IN RHODE ISLAND.

A new part-time course for jewelry apprentices has been opened in Providence, Rhode Island, in the Rhode Island School of Design. The course opened early in November, and is attended by young men from nine jewelry manufacturing establishments.

The young men attend the school three hours a day, three days a week, thirty-two weeks a year, for three years. A special night course has also been arranged requiring attendance six hours a week.

The purpose of the course is to qualify young men to act as designers and pattern-makers as well as expert workmen. It is felt that their progress will be more rapid as a result of the instruction and that their efforts will be more efficient. As a natural result there will be an improvement in the industry as a whole. The course of study will follow closely the lines of teaching that have been adopted in the schools in the large jewelry manufacturing centers of England, France, and Germany. The young men will be taught a general knowledge of industrial processes in the jewelry and silversmithing industries, metallurgy, mineralogy, chemistry and physics, readiness in computing industrial mathematics, a command of freehand and accurate working drawings, modeling in clay and wax, and casting.

The manufacturers' part in the arrangement consists of paying the tuition of the apprentice, \$42 a year; of paying for materials used, not to exceed five dollars a year per student, and thirdly of giving the apprentice compensation by the hour just as if he were engaged in his regular work in the factory. That these manufacturers believe in the benefit that will come from the course is demonstrated by the financial outlay they are willing to make in this way.

Augustus F. Rose, head of the jewelry and silversmithing department of the School of Design, is the originator of the plan, which he first presented to the advisory board of his department and thru them gained the attention and approval of the cooperating firms.

This course at the Rhode Island School of Design fills the need in Providence in a more direct way than did the cooperative course in the high school which was discontinued after the first term or so as so few students attended, most of those who started leaving to enter on a full-time apprenticeship in jewelry establishments.

A NEW OFFICE CREATED IN ILLINOIS.

An office unique in educational history has been created at the University of Illinois. In February, R. E. Hieronymous, formerly secretary of the Illinois State Educational Commission and for a number of years president of Eureka College, was appointed to the position which bears the name "community adviser." Working under the direction of the Extension Department and the School of Commerce, the community adviser will come to the aid of any community which feels the need of light on such subjects as vocational training, city planning, or rural betterment. Professor Hieronymous will spend the greater part of his time in traveling about the state and in correspondence with local and state organizations interested in community improvement, thus bringing these organizations and communities into touch with the resources of the University.

The work of the community adviser will be based on the principle that every community holds within itself the means for improvement, and that if all the various organizations in a given locality are once brought to the point where they can fuse their interests in matters where the best good of the whole locality are involved, then rapid and sound development will follow. The community adviser hopes to discover and use the practical means for securing this community consciousness.

To be specific, the adviser will concern himself with such matters as the following: if a rural neighborhood is interested in some phase of agricultural demonstration, it will be brought into touch with the extension department of the college of agriculture; if a city desires to lay out to the best advantage a park or boulevard system, it will be placed in communication with the university specialists in such work; local chambers of commerce will be encouraged to amplify their work by establishing evening commercial classes and other activities for which the experts of the school of commerce will be of service in an advisory capacity.

Perhaps no other question is so occupying the attention of civic, educational, and social forces in city and country life as is vocational education with its correlative vocational guidance. In the solution of this question the community adviser will be of great service, bringing to the work the results of much study and research, a broad view embracing both state and local needs, and knowledge of practical methods for utilizing local educational resources thru the cooperation of educational and civic organizations.

The work of the community adviser cannot fail also, to react favorably on the courses of study at the University, as his study of local business and agricultural needs will make it possible for the University to modify and supplement the courses to meet those needs.

The whole plan will possibly prove more efficacious than the usual university extension work, which reaches only such as can go to the university or to local extension centers, or than the county adviser plan which may lack unity and involves duplication of expense.

Another movement on foot in Illinois is of interest in this connection. A state educational survey is about to be undertaken under the direction of Professor Lotus D. Coffman of the University of Illinois. With this survey to indicate just what the educational facilities of the state are, and with the community adviser at work showing how these facilities may be utilized to the best advantage, it is not difficult to foresee Illinois moving forward to meet the new issues in education with vigor and despatch, with unity of effort, and in harmony of spirit.

CORPORATION SCHOOL DATA.

Valuable additional data on the attitude of manufacturers toward school shop training for industrial positions is available thru a chart prepared by the sub-committee on manufacturing and transportation of the National Association of Corporation Schools. Mark B. Hughes, of the Cadillac Motor Company, Detroit, Michigan, is chairman of the sub-committee which drafted this "tentative" chart. It includes statistics from forty-seven corporations and from six trade schools. The statistics consist of such points as the number of apprentices enrolled in classes, wages paid, text-books, length of class periods, etc.

Of special interest to the general school public, however, are the answers to the last ten questions on the chart which are here summarized:

1. Do you believe manufacturers would be sufficiently benefited to warrant the expense of establishing apprenticeship or corporation schools? Yes: 38. No: 0.
2. Do you believe the public school system can prepare the boy for the shop without the aid of the shop school? Yes: 4. No: 35.
3. Of the boys who enter your shop, do those from the high school or those with 5 or 6 grades and 1 or 2 years of practical shop experience, prove most desirable? 1st: 12. 2nd: 16. Uncertain: 4.
4. Would you be willing to establish an apprentice school in your shop if it could be made self-supporting? Yes: 28. No: 1.

5. Are you in favor of giving apprentices 2 to 5 hours a week of mathematics, drawing and shop instructions with pay for time so spent? Yes: 32. No: 4.

6. Do you favor instruction along general lines or your special line? General: 15. Special: 10. Both: 8.

7. Do you believe it would be advisable for manufacturers to agree not to employ a boy and take him away from an apprentice course without the consent of employer? Yes: 25. No: 10.

8. Do you favor a special mechanical instructor or allowing the shop foreman to do all the instructing? Special: 30. Shop Foreman: 5. Both: 2.

9. Do you favor all instruction on parts which go into regular output or an amount of special instruction (unproductive) better suited to explain complicated operations? Regular output: 25. Unproductive work: 4. Combination: 6.

10. Are you in favor of employing only first-class practical mechanics as instructors at not less than \$4 per day salary? Yes: 28. No: 3.

As is usual in questionnaires of this kind the replies do not represent all of the corporations in each question but the proportion indicates in a general way the attitude of the group on each question.

Analysis of this summary reveals beyond a doubt that corporations are in favor of apprenticeship schools within their own plants and that with few exceptions they do not believe that the public schools can train pupils adequately for shop positions. Another point which should be studied in these questions and answers is the extent to which the corporations are inclined to place the welfare of the apprentice above the profits to be derived by the company, as shown in questions 5 and 10.

Such analysis and the character of the chart show that these large corporations are making definite progress in the work of organizing and administering their shop schools. These things should be carefully considered by the leaders in the field of public school vocational training.

AN INDUSTRIAL INSTITUTE FOR MINNEAPOLIS.

In the will of the late W. H. Dunwoody, miller, philanthropist, and financier, Minneapolis received a bequest of over \$2,000,000 to be used for the establishment and maintenance of an industrial school, to be known as "The William Hood Dunwoody Industrial Institute."

In Mr. Dunwoody's experience as a manager of flour mills in the days of the smaller milling plants when he was about among the workmen, he frequently observed the need of a more practical type of schooling for the young men who came into his employ. It was this early experience and observation that led to the bequest. It was the life-long hope of Mr. Dunwoody that the youth of the city and state might some

day be given an education that would better fit them for the duties of life, and give them a truer understanding of the dignity of labor. A bequest for this purpose appealed to him as the best opportunity to benefit his city and state.

His purpose is stated in the will in the following words: "Believing that in the multiplied facilities for obtaining a liberal education by the youth of this state enough attention has not been given to instruction in the industrial and mechanic arts, therefore, it is my purpose and desire to establish and endow a school to be called 'The William Hood Dunwoody Industrial Institute,' wherein shall be taught industrial and mechanical arts, giving special importance to the different handicrafts and useful trades, including as of special importance the art of milling and the construction of milling machinery."

The affairs of the school are to be administered by a corporation, whose membership is listed in the will. Instruction is to be free to the youth of Minneapolis and the state of Minnesota "without distinction on account of race, color, or religious prejudice." One-third only of the bequest is to be used for the site and buildings, leaving a generous amount for endowment.

Definite plans have not as yet been made, but it is surmised that the school will be located in the down-town portion of the city, probably not far from the milling district. The school plant will probably include a small model flour mill with a mill wright's shop in which all kinds of milling machinery can be studied and tested. A model bakery is also included among the possibilities.

This bequest, following on the work of the Minneapolis survey and the recent activities in the direction of vocational guidance, will make it possible for the progressive citizens of Minneapolis to see their ideas put into concrete form.



During the past summer the Chamber of Commerce of Rochester, New York, thru the industrial and education committee, made a survey of three industries, the woodworking, the machine and metal working, and the clothing. Since completing these investigations the same committee has been meeting regularly at the Chamber of Commerce rooms, formulating plans of cooperation between the manufacturing machinists and the school authorities. This resulted in an organized plan of education for the machine and metal working industries. February 5th the plan was presented and accepted at a meeting which included about 150

machinists, the officers of the Chamber of Commerce, the members of the industrial and education committee, and members of the Board of Education. The only change in the plan suggested at this meeting was that the scale of wages be left for adjustment between the school authorities and the individual cooperating firm.

The work will be conducted at the Rochester Shop School. The plan as adopted, with the exception noted, is as follows:

1. That the Shop School shall give to boys who are not less than fourteen years old and who have completed at least the 6th grade, or preferably to boys who have completed the work of the elementary schools, a general industrial or "try-out" course of such length as the school authorities may deem necessary, and shall select those who have an aptitude for and an ambition toward the trade of machinist.

2. That the Shop School shall give boys thus selected a preparatory course of approximately two years, one half of each day being spent in shop practice and the other half in the study of shop mathematics, mechanical drawing, applied science, industrial history, civics and English.

3. That upon the satisfactory completion of this course the metal trades employers of Rochester shall employ these boys in such numbers as trade conditions and shop management shall warrant, at the following schedule of wages:

- \$ 9.00 per week for the first six months.
- \$10.00 per week for the second six months.
- \$11.00 per week for the third six months.
- \$12.00 per week for the fourth six months.

(Note). In the event of any boys earning by piece work more than the above scale, the balance shall be held back by the employer and paid to the boy as a bonus at the completion of the two years' apprenticeship.

4. That during the two years' apprenticeship the employer shall allow each boy, during working hours, an amount of time off equivalent to one-half day each week, for continuing his studies, such time to be taken when manufacturing conditions will best permit.

5. That the first three months of employment, as provided in Articles 3 and 4 shall be considered a probationary period and the diploma of the school shall not be awarded until the satisfactory completion of this probationary period.

6. That the members of the Machine Industry shall select a committee of three of their number who shall:

(1) Inspect frequently the work of the Shop School and offer criticisms and suggestions for the improvement of the work.

- (2) Suggest tests that shall measure the pupil's progress in manipulation skill and technical knowledge.
- (3) Suggest tests that shall measure the qualifications of boys for graduation.

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"That a comprehensive survey be made showing the number of girls and boys employed in different occupations; whether the work is energizing or enervating; whether it is juvenile work only, or whether it offers good permanent employment; whether or not it is seasonal; together with the usual vocational statistics on wages, home conditions, reasons for leaving school, etc. This survey should include an analysis to ascertain when the workers could best be released from their work to attend school."

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FOREIGN NOTES

H. WILLIAMS SMITH.

Mr. John Galsworthy, novelist and dramatist, in a recent letter to *The Times*, deals with "a few only of the abhorrent things done daily" in England, and among other "barbarities and mean cruelties" he calls the attention of Parliament to "employment of boys on work that to all intents ruins their chances in after life—as mean a thing as can well be done." Mr. Galsworthy may, perhaps, be induced later on to write a drama or a novel for the purpose of advocating vocational education. As matters are at present there are better materials to hand for a tragedy than for a comedy.

The leading writer in *The Daily Sketch* iterates and re-iterates the need for vocational education. In dealing recently with the school-leaving ages, he writes derisively of those persons who say "raise the school-age, and all will be well—which, as schools are at present, is arrant nonsense. Boys will enter blind alley occupations at the age of fifteen instead of at the age of fourteen; and that is all the difference. For the ordinary school training does not fit boys to follow any specifically skilled occupation. * * * The book learning of the elementary schools is of little use; the tasks of educationists, which they have shirked so long, is to train boys to become skilled workmen. * * * And we should not put off for another moment the institution of a national system of apprenticeship. * * * Nobody realizes better than myself that the problem of apprenticeship is hard to solve; but it must be solved." This is, perhaps, a little amateurish, a little exaggerated, but I wish everybody was as really interested in the question as is *The Daily Sketch* scribe.

A really gratifying feature of English journalism is that the veterans, such as *The Times* and *The Morning Post*, which were both started soon after the war of Independence, seem quite as keenly interested in manual and vocational education as even comparative babies, such as *The Daily Sketch*. *The Times* (which by the way is sold for a penny at last) in a recent leader refers to the "general idea of the systematic cooperation of the school and the workshop as two coordinate halves of a common system of training, to be carried on simultaneously. Their divorce is a mistake based on false notions of education and on obsolete

conceptions of the workshop and the factory. School has been regarded as a desirable thing in itself, to be prolonged to as late an age as possible, and the workshop as a necessary evil, to be postponed as long as possible. They have been made as unlike and separated as widely as possible, and then the unfortunate child has been taken straight from one to the other. The half time system, which involves a gradual transition, has been denounced in terms of extravagant condemnation; but Mr. Boys-Smith points out that it is not the half time system that is wrong, but its application. *Rightly applied it is the true method of preparation for modern industrial life.* What is needed is not its abolition, but its extension upwards, properly adjusted and regulated. That opinion, we may observe, has been gradually forming and gathering strength for years in the North of England, where the half time system is best known and understood. The factory or workshop is itself a school and should be so regarded. The prejudice against it dates from the time of excessive hours and bad conditions, which are rapidly disappearing. If it were looked upon as a school an additional stimulus would be given to the process of improvement." I hope you will view with tolerance the veneration with which *The Times* is regarded by myself and most other Englishmen, but, really, this utterance of the famous newspaper seems to me to be one of the best things that have been said about vocational education; and I have an idea that it should be as useful to the States as to the Mother Country. The sentence which I, not *The Times*, have italicized, seems to crystallize the whole situation. I will confess that this utterance has given me a new point of view on the half time question, for which I am, personally, grateful.

The Times in a review of a book called "The Hampshire Experiment in Education," says of the author, Mr. C. R. Ashbee, "He writes, of course, with most authority upon education in the arts and crafts, which is an important part of the 'Hampshire' experiment. It is useless, he says, to multiply schools for the teaching of art if what they teach does not help the student to make a living afterwards. Rather the workman, whenever possible, should be taught to bring art into his own craft. That is true, and in the past art used to grow in the crafts and was not taught as a generality in art schools. No one wants art as a generality, or ever has wanted it. We want particular things well made with that over-beauty of design and ornament which turns them into works of art." That is very good gospel indeed. Art should help all of us to live, and help some of us to make a living.

The Executive of the National Union of Teachers is asking the Parliamentary Committee of the Trades' Congress, the executive of the Farmers' Union, and the Executive of the Agricultural Laborers' Union to send representatives to meet representatives of the N. U. T. in order to discuss the proposals to establish a system of vocational training in primary schools. The Mistresses Committee of the London Teachers' Association has adopted the following resolution: That in the opinion of this committee a considerable extension of the London County Councils' system of trade scholarships for girls is necessary, particularly in the direction providing scholarships to prepare girls for suitable women's trades and for mercantile and commercial life.

The head master of Bradfield College, Berkshire, in the course of a correspondence with Mr. H. E. Morgan, managing director of W. H. Smith and Son, says: "Without some specialized training it is my belief that a public school education will, in the future, prove of increasingly less value to boys whose future career lies in the sphere of commerce. And I am persuaded that those entrusted with the education of the coming generation have no rational ground for opposing a reform which, as parent after parent is telling us, is overdue. At the beginning of the May term we shall institute at Bradfield, for those requiring it, such modifications of our existing routine as the case demands. In the upper parts of the modern side there will be special business classes, preceded by a preliminary period of lesser specialization in the lower forms of the school." In commenting on this letter, Sir John McClure, head master of Mill Hill School, says: "Let the business men indicate the end in view and leave the means to experienced teachers. I want the fullest possible exchange of views between business men and head masters of public schools, for we have much to learn from each other. One thing it is necessary to remember is that if you train boys exclusively for business you do not really train them at all."

The eighth report of the Rural Education Conference urges the extension of the manual method of instruction in rural schools, and points out that in schools where this method has been introduced, the development of the children has been helped by the fact that they have been given work to do which they have recognized as definitely useful, with the result that they have become more adaptable for their work in after life.

REVIEWS

Questions and Answers on Automobile Design, Construction, Driving, and Repair, Victor W. Pagè, the Norman W. Henley Publishing Company, New York, 622 pages, price \$1.50.

This is a practical treatise consisting of thirty-six lessons in the form of questions and answers, written with special reference to the requirements of the non-technical reader desiring easily understood explanatory matter relating to all branches of automobiling. The book is copiously illustrated with half-tones and line drawings. A complete index adds greatly to the value of the work.

RECEIVED.

North Bennet Street Industrial School, Boston, Mass., Report for 1913. A profusely illustrated booklet of 60 pages, that undertakes to answer these questions about the school: What is it trying to do? What is it actually accomplishing? What place has it taken in the fields of education and social service? What of the value of the preventive? Can we afford to continue it? Can we afford not to continue it?

The Apprentice Printer, Published by the Committee on Apprentices of the United Typothetae and Franklin Clubs of America. This is volume one, number one, of a little monthly published in the interests of printing apprenticeship schools, with special reference to the newly established school at Indianapolis, conducted by the organization.

A Turn in the Road From Nowhere. A 16-page pamphlet telling the story of how one boy got his start thru the International Typographical Union Course of Instruction in Printing. Incidentally an excellent example of composition and presswork for study by pupils in the printing shop.

Report on Vocational Education for Boys. By Alfred P. Fletcher, Assistant Superintendent of Public Schools, Rochester, New York. Statement of aims, methods, and accomplishments to date of the Rochester Shop School; financial statement, and recommendations. Printed by the School.

Industrial Education as Carried on at the Jewish Orphan Asylum, Cleveland, Ohio. By Charles Marten, Director of Industrial Arts. An outline of the industrial studies and a brief statement of their development during the past seven years. Illustrated. Composition and presswork by the printing class.

State-Aided Vocational Schools: Rules and Regulations. Bulletin No. 1, June, 1913, State Department of Public Instruction, Trenton, New Jersey.

Barbara's Philippine Journey. F. W. Burks, World Book Company; a primary reader which belong in the "industrial intelligence" class of books for primary grades.

Annual Report of Public Schools, Houston, Texas; 1912-13. Contains report of manual training supervisor, including list of equipment for ward schools, also detailed courses of study.

Some Aspects of Vocational Guidance. Published by the Central Committee on Vocational Guidance, 525 West 120th Street, New York, 1912; price, ten cents. A collection of abstracts of addresses and of papers written specially for this pamphlet.

Seventeenth Annual Report of the George Junior Republic Association. Published by the Association, Freeville, New York, 1913; C. Spencer Richardson, Acting Superintendent.

Report of the Vocational Guidance Survey. By Alice P. Barrows, Director. Bulletin No. 9. Published by the Public Education Association, 40 West 32nd Street, New York, 1912. Reprint of a preliminary report submitted to the Superintendent of Public Schools, New York City, which is to be followed by a complete report now in preparation.

Some Elements Necessary to Race Development. By Robert R. Moton, Commandant of Cadets, Hampton Institute. An address delivered at the Tuskegee Commencement, May, 1912.

General Samuel Chapman Armstrong. By Henry Pitt Warren, Headmaster of the Albany Academy, Albany, New York. Founder's Day Address, Hampton Institute, February 2, 1913.

Two pamphlets containing addresses reprinted from the "Southern Workman," from the Press of the Hampton Normal and Agricultural Institute, Hampton, Virginia.

Annual Report, Board of Education, Bayonne, N. J. Contains report of Supt. J. W. Carr, Principal of Vocational School, Principal of Evening Technical School, Supervisor of Manual Training, etc.

Practical Mathematics, by Norman W. M'Lachlan; Longmans, Green, and Co. Price 80c, net. Intended for the use of students attending evening and day technical classes.

Mechanics for Builders Part I, by E. L. Bates and F. Charlesworth; Longmans, Green, and Co.; price \$1.00 net. This is in the Technical Handicraft series.

Vocational Education. Describes vocational education in the Rochester, New York, public schools in the year 1913.

State-Aided Vocational Schools. Rules and regulations for the conduct of the vocational schools of New Jersey. Bulletin No. 1 of the State Department of Education.

The Co-operative Industrial Course of Study in the High School, York, Pennsylvania, from the catalog of public schools, 1912, and report of Supervisor for 1912-13.

First Annual Report of the Continuation and Industrial Schools of Sheboygan, Wisconsin.

What Chambers of Commerce Can do for Vocational Education, by Alvin E. Dodd with the collaboration of C. A. Prosser.

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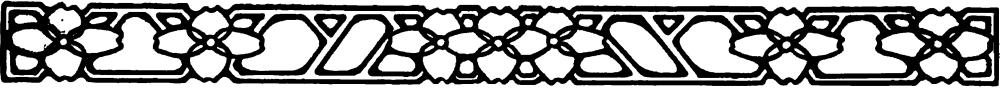
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BREVITIES

Charles R. Beeman was appointed Secretary of Industrial Education at the Central Y. M. C. A., Pittsburgh, to begin active work in September. He spent the summer months in a preliminary investigation in connection with the DeQuesnes, Pa., Y. M. C. A. He was formerly instructor in shopwork in the Newman Manual Training School, New Orleans, completing the course at Teachers College, New York, in June, 1913.

Ira S. Griffith, principal of the vocational school at Bradley Polytechnic Institute, has been called to the University of Missouri, where he becomes the head of the Department of Manual Arts. His place has been taken by Frederick H. Evans who for several years has been in charge of the evening school. This brings all the work of the vocational school directly under Professor Evans.

A two-year course in home economics and a two-year course in trade engineering will be in operation at Iowa State College at Ames, this year. The regular college courses and their entrance requirements will in no way be affected by the new courses, which will appeal to a special class of students, those who lack opportunity to pursue the longer courses. Students are eligible to the two-year courses who have completed the eighth grade of the public schools and who are at least seventeen years old, in the case of young men, or eighteen years old in the case of young women.

Miss Helen R. Hildreth, of Boston, succeeds Miss Cleo Murtland as director of the Worcester Trade School for girls.

Prevocational work will be extended in Chicago to include five more schools, making six centers in all. Another step in vocational work in that city is the appointment of Assistant Superintendent Elizabeth W. Murphy to do outside work in interviewing and planning with employers for the establishment of vocational or apprentice classes for girls.

Troy, New York, has a new vocational school, of which William C. Smith is director. The girls' department will be in charge of Miss Nettie B. Hills, of the Schenectady Teachers' Training School.

The New York City Board of Education has appointed a special committee to arrange with the Permanent Census Board for an investigation which will reveal the exact number of employed children in the city and the nature and advantages of their occupations.

W. F. Book is the newly appointed assistant state superintendent in Indiana, in charge of vocational education. Mr. Book was professor of psychology at the Indiana State University, coming to that institution from a similar position in the University of Montana.

Z. M. Smith, of Purdue University, has been appointed state agent in charge of agricultural education in Indiana. Professor Smith has had considerable experience in the boys' and girls' club work and in agricultural extension work.

A vocational guidance bureau has been established in Grand Rapids, Michigan, under the direction of Jesse B. Davis, principal of the Central High School. Mr. Davis' experience in providing vocational guidance in connection with the high school English work has been discussed the country over. His work with the new bureau will be followed with equal interest.

The legislature of Massachusetts in June passed a law providing for state aid for continuation schools and departments.

Interest in vocational guidance was manifested in the success of summer courses in the subject. Meyer Bloomfield conducted a course at Harvard University, as he has done for several seasons. Teachers College, Columbia University, offered a course under the direction of Professor Bonser, who was assisted by thirteen lecturers prominent in the vocational guidance field. At the University of Chicago, Professor Leavitt conducted a course which was very well attended.

South Bend, Indiana, will open an elementary industrial school this fall. Woodworking will constitute the shopwork.

Arthur S. Allen will be director of the New Bedford Industrial School, in Massachusetts, this year. Mr. Allen has been an instructor in the school. Miss Constance C. Hart, an instructor in the girls' department was promoted to the position of head of that department.

(Continued on p. VI.)



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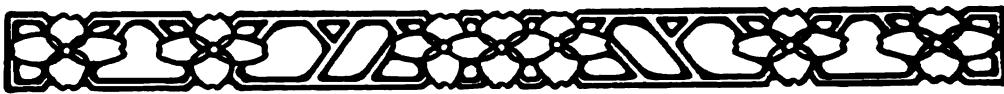
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BREVITIES

(Continued from p. IV.)

In Saginaw, Michigan, a beginning in vocational guidance work has been made in the senior classes in economics. The following questions, used in those classes, and their answers will prove interesting to vocational guidance workers:

Question 1. Have you selected a business, profession, or occupation that you expect to follow as a life work? Boys—Yes, 10; No, 10. Girls—Yes, 17, No, 4.

2. Did you come to your decision in the grammar school or the high school? Boys—grammar school, 0; high school 10. Girls—grammar school, 6; high school, 11.

3. Did you come to your decision alone or thru the aid of parents or teachers? Boys—alone, 9; with aid, 4. Girls—alone, 6; with aid, 12.

Each year the cooperative course students of the Fitchburg, Massachusetts, high school are taken to some large manufacturing city of New England, where they inspect the shops of the principal manufacturing plants. This year the trip was made to Providence, Rhode Island.

A vocational survey will be made of New Orleans, an appropriation of \$2,000 from the Delgado bequest having been made for the purpose. Dr. David Spence Hill of Newcomb College will conduct the survey as part of his work as director of the new department of educational research established by the Board of Education.

The New York Vocational School for Boys graduated a class of fifty the latter part of July. All of the class have positions.

The Quincy, Massachusetts, part-time vocational work appears to be well adapted to local needs. The course enrolled at the close of the year its full limit of forty-one boys, and had a waiting list. The Boston Gear Works, the Pneumatic Scale Company, and the Couch Telephone Company, have joined with the Fore River Shipbuilding Company in giving the course. The membership of the course will be increased to eighty this fall, and several trades will be added to the course of study. The school will have the advantage of a building to itself, having been

transferred from rooms at the high school to the Adams school building.

The Master Sheet Metal Workers Association of Philadelphia has appropriated \$100 for prizes for the apprentices who have attended the evening classes in the Philadelphia Trades School during the term of 1912-1913. Until this year the Association conducted classes in the Y. M. C. A. Under the new arrangement for cooperation with the public schools, the class grew from 40 to 145. Two hundred and forty plumbers apprentices attended the evening classes in their trade during the last term. For two years the Master Plumbers' Association has given gold watches to the apprentices completing the work of the term with the highest average.

An industrial school and college has been opened at "Mooseheart" near Aurora, Illinois, by the Loyal Order of Moose. The school is for the benefit of the children of deceased members of the order. The cost of the institution is estimated at \$600,000. The enrolment for this year will be over two hundred. These young people will be given an education which will combine the usual collegiate training with a thoro preparation for earning a living.

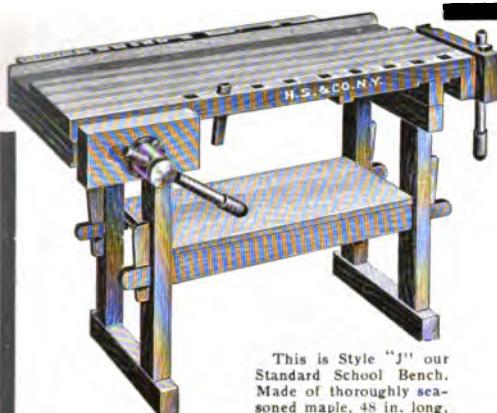
The College of Hawaii has extension work, by means of correspondence courses, in the study of soils and crops, poultry culture, practical horticulture, sewing, and cooking.

William F. Grady and James W. Johnson will teach in the newly established trade school at New Haven, Connecticut.

George H. Whitcher has been appointed deputy state superintendent of public instruction in New Hampshire, to direct the work in agricultural, commercial, domestic arts and mechanic arts education. Mr. Whitcher was formerly superintendent of the Berlin schools in that state. About thirty first class high schools in the state will offer courses in one or all of these special subjects the coming year.

A vocational agricultural school will be established in Brimfield, Massachusetts, this year. George F. Kenney has been appointed director.

(Continued on p. X.)



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BREVITIES

(Continued from p. VI.)

A bill has passed the United States Senate providing for a commission of nine members to study the question of vocational education and report to the next session of congress.

Lafayette, Indiana, has established a vocational school, which will be open the year around. Harry E. Taylor, a graduate of the Stout Institute, and a former citizen of Lafayette, is director of the new school.

The Industrial School at Lawrence, Massachusetts, has been discontinued for the present. The School Board wishes to wait until industrial education has passed the experimental stage, and conditions have become more favorable.

Miss Cleo Murtland, director of the Worcester, Massachusetts, Trade School for Girls, has resigned her position to accept work with the National Society for the Promotion of Industrial Education. She will act as secretary to a national committee which will study the development of vocational training for girls thruout the country.

Robert O. Small, superintendent of schools in Beverly, Massachusetts, is now Deputy Commissioner of Vocational Education for the State.

Mrs. Eva W. White who has been inspecting the vocational work for girls and women in Massachusetts, under the authority of the state board, during the past year, has been appointed a regular agent of the board.

The New York Board of Education has adopted an amendment to its bylaws which reads as follows: "The principal of each high school may organize, subject to the approval of the board of superintendents a students' vocational bureau, for the purpose of furnishing employers with information concerning students and former students, for obtaining fitting employment for such students, and for obtaining and recording information concerning the adjustment of high school education to occupations upon which the students may enter."

A new development in the State of Washington is the organization of a Boys' and Girls' Industrial and Agricultural Association. County boards are appointed by the school authorities, consisting of prominent men and women, to look after the affairs of the local branches of the Association. The management of exhibits for the state fair, and county and sectional fairs is one of the chief duties of the county boards.

The Minnesota legislature at its last session passed a bill increasing its appropriation for state aid for manual training, domestic economy, and agriculture to \$100,000 a year.

The Board of Education of South Omaha, Nebraska, voted for larger appropriations for manual and vocational work in the schools this coming year. One of the school buildings will be fitted up as a modern industrial school.

The Central Labor Union of Holyoke, Massachusetts, has appointed a special committee to assist the school men in an effort to arouse wider interest in vocational training in the city.

The Brooklyn Board of Education has authorized the establishment of a Vocation Bureau to take over the work which has been done by Eli W. Weaver and his associates at the Boys' High School voluntarily.

The Secretary of the Navy has made arrangements for giving enlisted men in the Navy some form of vocational training in order to fit them for responsible positions in civil life when their terms of enlistment expire. Three hours a day will be given to this schooling, which will be of a type similar to the curriculum of the Annapolis Naval Academy, tho modified and simplified.

Agricultural courses were maintained last year in thirteen secondary schools in Maine, in the following towns, Parsonsfield, Fryeburg, Leavitt, Wells, Washburn, Cape Elizabeth, Vassalboro, Bucksport, Freedom, Kent's Hill, Springfield, Hartland, and Good Will Farm.

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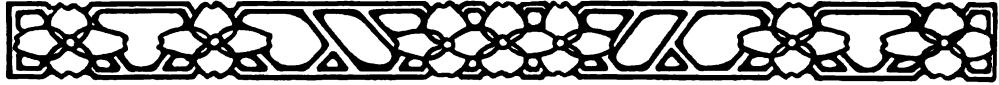
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Nation Wide Movement for Industrial Safety, F. C. Schwedtman, *Survey*, April 19, p. 102.
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The Printing Office as a Vocational School, W. H. Wright, *Inland Printer*, May, p. 221.
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 School and Home Gardens, Carl Colvin; p. 54.
Psychological Tests in Vocational Guidance, Leonard P. Ayers, *Journal of Educational Psychology*, April, p. 232.
Public Schools that are Making Good, Scott Nearing, *Ladies' Home Journal*, May, p. 10.
Recent Tendencies in Agriculture, E. Dana Durand, *Youth's Companion*, May 15, p. 255.*

*Illustrated.

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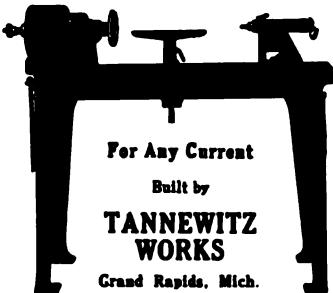
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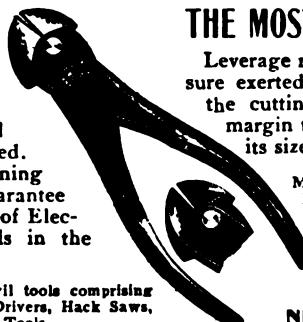
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Progress in Household Arts Education, Helen Kinne, p. 70.

The Vocational Bearing of the Industrial Arts for Boys in the 7th and 8th school years, E. B. Kent, p. 82.

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The Visiting Teacher in Action, Mary Flexner, *Survey*, May 3, p. 179.

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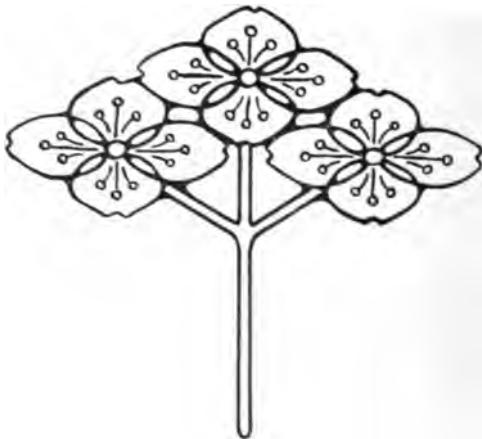
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What Children Who Leave School Really Need, *Survey*, May 24, p. 273.

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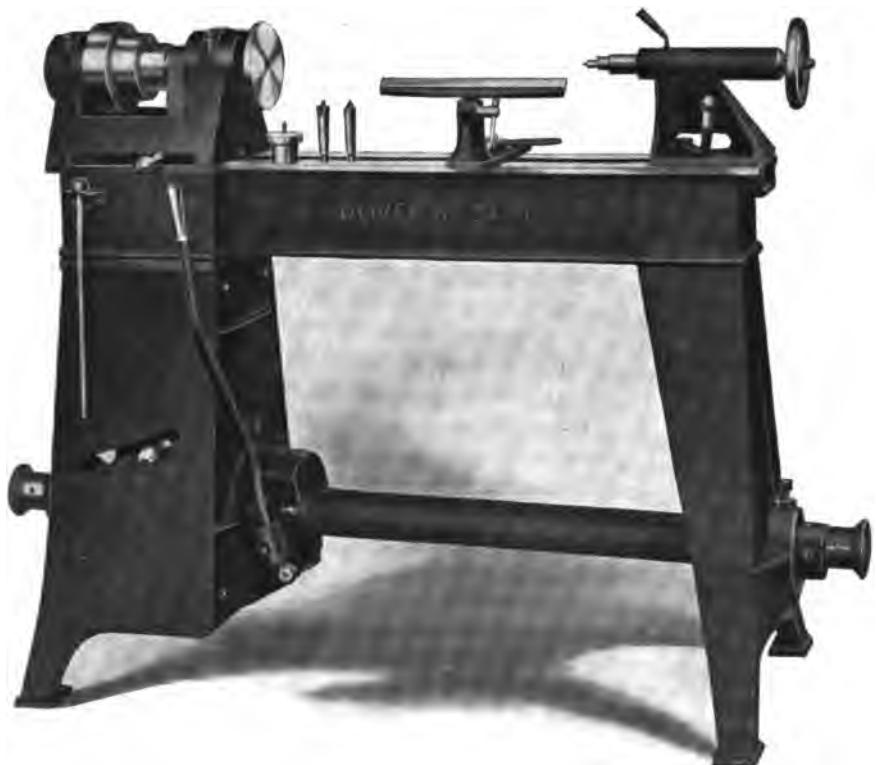
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NEW PUBLICATIONS READY FOR DISTRIBUTION

BULLETIN No. 16.—Proceedings of Sixth Annual Convention, Philadelphia, Pa., December 5-7, 1912.

BULLETIN No. 17.—The Short Unit Course for Evening and Part-time Schools—Wesley A. O'Leary, with the collaboration of C. A. Prosser. The Health of the Worker, C. E. A. Winslow. Bulletin Metropolitan Life Insurance Co.

Extracts from addresses and writings on the subject of Vocational Education and Vocational Guidance, by William C. Redfield, Secretary of Commerce and President of the Society.

Progress in Vocational Education, C. A. Prosser, Reprint from the Annual Report of Commissioner of Education, 1912.

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BREVITIES

The Royal Commission on Industrial Training and Technical Education in Canada has submitted its report. It recommends a development fund of \$3,000,000, to be provided annually for a period of ten years, divided among the provinces on the basis of population, for the purpose of promoting higher technical and industrial training. For the elementary schools teaching practical arts a grant of \$350,000 a year for ten years is recommended.

Wesley A. O'Leary, former head of the New Bedford, Massachusetts, Industrial School, is now director of evening classes at Pratt Institute in New York.

The National Association of Corporation Schools held its first annual convention at Dayton, Ohio, September 16th to 19th. The avowed purpose of the association is to provide a means for the interchange of ideas and experience, and thru this interchange to prevent, if possible, costly mistakes in the organization and administration of new corporation schools.

A part-time cooperative course is in operation in Passaic, New Jersey, schools. The firms co-operating with the schools are the Brighton Mills, cotton manufacturers, and the Robins Conveying Belt Company. Thus the boys have a choice between textile and machine shop work. The school subjects for this class include shop arithmetic, a little algebra, bookkeeping, mechanical drawing, English and German for the first year; geometry, mechanical physics, industrial history for the second year; and industrial chemistry, civics and American history for the third year. The course covers the last three years of high school work. Frederick O. Smith is director of the vocational work in the Passaic schools.

Vocational work is offered as a new feature of the evening schools of Schenectady, New York, this year. The work is planned for employed people, sixteen years of age or over.

A new county agricultural school has been established in Essex County, Massachusetts, on a farm near Hathorne. Fred A. Smith has been appointed principal.

The Waterbury Institute of Craft and Industry is an incorporated, undenominational school for young women, located in Waterbury, Connecticut, and supported by bequests and by tuition from students. Until 1908 the school was known as the Young Women's Friendly League. It was organized in 1889 and has been giving for years the kind of instruction which has only recently been made available in public schools.

In the departments of housekeeping and domestic arts are found the following vocational courses: a housekeepers' course in domestic science designed for those who wish to make housekeeping a profession, a course for waitresses, a course in laundry work, a course for nursery maids, a course in dressmaking, and millinery.

A vocational bureau has been opened in one of Pasadena's schools in California. Miss Eleanor N. Neal is in charge. The Merchants' Association members have assured Miss Neal of their hearty cooperation.

Alameda, California, has a vocational guidance course in the high school, under the direction of Miss Emma Garretson. The lecture method is being used at present.

An evening vocational school for women has been opened in one of the New York public schools. This fills a long-felt need. The instruction will be two-fold, academic and industrial. Instruction in languages will be given to increase the efficiency of nurses and teachers whose work lies in the foreign sections of the city. The industrial subjects include industrial designing, costume illustrating, leather work, sewing, dressmaking, millinery, and embroidery.

The State Trade School for Boys in Worcester, Massachusetts, has a new department, printing, in charge of Harrison B. Foskett.

H. A. Brown has been appointed as one of the deputy state superintendents in New Hampshire, in charge of agricultural, and domestic and mechanic arts. Mr. Brown was formerly superintendent of the joint district of Colebrook and Errol in Coos County, New Hampshire.

(Continued on p. VI.)



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BREVITIES—(*Continued from p. IV.*)

The Arthur Hill Trade School in Saginaw, Michigan, was opened September 15th. The building is practically fire proof, paving brick and reinforced concrete being used in its construction. Stairways are of iron, inlaid with asphalt, and the floors are of tile. The building is of modified factory type in appearance.

The Department of Superintendence of the National Education Association will hold its next meeting at Richmond, Virginia, February 23-28, 1914. The evening meetings will be held in the city auditorium which has a seating capacity of 4,000. The high school auditorium, seating 1,300 people is available for day meetings.

The Buffalo Normal School has opened its evening classes for training trade teachers. Mechanics who show proficiency in their trades and give evidence of having ability to take up pedagogical study are eligible, preference being given to men between twenty-one and forty years of age.

Secretary of War Garrison has taken up the idea of trade training for enlisted men in the army with great enthusiasm. Such training would give the enlisted men a useful trade when their terms expired and would benefit the army by serving as an inducement to enlistment and a means of contenting the men in garrison.

As now planned, Waterloo, Iowa, will have the first trade school to be established under the new law in that state.

Canton, Ohio, has vocational guidance in the high school this semester. The work is being developed in two ways, thru English work and thru personal investigation and tabulation of results.

Waterville, Douglas County, Colorado, has a community center high school in which six contiguous districts are interested. Vocational courses as well as academic work are provided

for in the new building. Eighty acres of land have been leased for a long term for an experimental farm, and ten acres for farm and garden demonstrations. A county farm director has been employed who will keep close connection between the theoretical work of the agricultural classes and its practical application.

The Vocational School, Utica, New York, has a mechanical course this year which includes electrical wiring, sheet metalworking, and pipe fitting. The Utica schools also have a vocational bureau, new this year, consisting of three departments, temporary employment, permanent employment, and college entrance.

H. A. Rush has been made head of the department of agriculture and rural life in the high school of Mansfield, Ohio.

Williamsport, Pennsylvania, has an evening vocational school, conducted as part of the public school system.

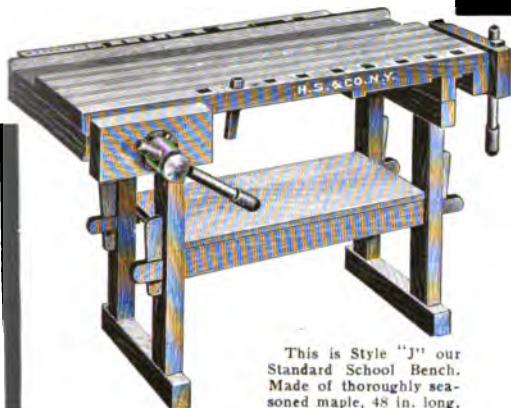
The Girls' Trade School, Bridgeport, Connecticut, has arranged a part-time class in sewing, dressmaking, embroidery and costume design.

Buffalo, New York, has five vocational evening schools, and short unit courses at the Technical High School for those who wish to improve their work in some special phase.

Fairmount Academy at Fairmount, Ind., will be utilized as a vocational school under the new Indiana law. Benjamin Montgomery has been appointed teacher of agriculture for the academy.

Ellsworth Longfield, instructor in evening classes in the New Bedford Industrial School, has been placed at the head of a new department of sheet metalworking recently opened in the Boys' Industrial School, Common Street, Boston.

(*Continued on p. X.*)



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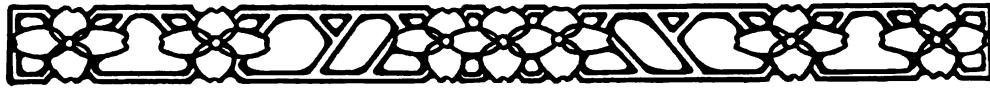


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BREVITIES—(*Continued from p. VI.*)

A school of practical arts has been organized in Brookline, Massachusetts, with headquarters in the Manual Training High School.

"The Vocational in Education" is the subject for the program of the coming meeting of the Central Association of Science and Mathematics Teachers at Des Moines, Iowa, November 28 and 29. A copy of the program and list of speakers may be obtained from W. L. Eikenberry, secretary, the University of Chicago.

C. S. Newman, head of the printing department in the Bridgeport, Connecticut, Trade School, resigned this fall to accept a similar position in the Technical High School in Rochester, New York.

Part time classes are being organized for the grammar grades of the public schools in Worcester. A special supervisor will be engaged who will keep a close connection between the school and the places of employment.

A vocational conference for young women will be held in Bozeman, Montana, in November, under the direction of the dean of women at the State college. The State Federation of Women's Clubs has been active in promoting the conference, and each club in the federation has pledged itself to send one or more girls from the local high schools to the conference. The purpose of the meeting is to acquaint the young women with the facts regarding vocations open to women in order that they may make intelligent choice of an occupation.

The applications for admission to the newly-established trade school in New Haven, Connecticut, have exceeded all expectations. The accommodations are crowded with 136 enrolled, only half of the number who applied.

Mr. Waldron, instructor in the Newton Technical High School, has been made director of the new prevocational schools, recently organized in Brookline, Massachusetts.

W. R. Hart, professor of agricultural education in the Massachusetts Agricultural College, says, in an article in *The Rural Educator*, that before agriculture becomes entitled to a permanent place in the common school curriculum it must withstand three tests; first, the test of usefulness; second, the test of mental discipline; third, the test of humanizing culture.

I. W. Burroughs is director of vocational guidance in Pittsburg, Pennsylvania.

An interesting development of recent years is the rural chautauqua, which, in many places, is a direct factor in agricultural education. The programs of such chautauquas the past season contained topics of agricultural interest, such as poultry raising, soil testing, and stock judging. Again, the chautauqua served as a rally-place, for the organization of boys' and girls' agricultural clubs.

A department of agriculture will be established during the year in the high school at Concord, Massachusetts.

In Minnesota the need for trained teachers of agriculture and domestic science is so great that the School of Agricultural Technology at the State University has taken for its main work the preparation of teachers for these subjects.

Two hundred and twenty towns in Massachusetts are represented in boys' and girls' agricultural clubs, with a total membership of nearly 20,000.

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INDEX TO PERIODICAL LITERATURE.

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* Illustrated.



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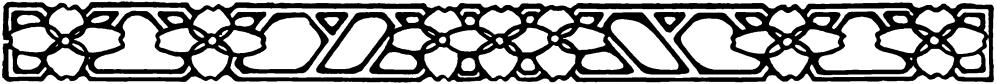
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BREVITIES

Iowa State College, at Ames, is coming to the rescue of the rural teachers of Iowa who must be prepared inside the next twenty months to teach agriculture in the schools. The extension department of the college conducts six-day short courses in every county in the state, presenting, in condensed form, the fundamental facts and methods of teaching the new subject.

Frank H. Ball, director of industrial training in Pittsburgh, has originated a system of credit and certificate giving which he is trying out in the industrial schools of the school system. In these schools certificates are issued every two months, each certificate stating the proficiency of the pupil in some one line of industrial work. Other more elaborate certificates are given at the end of one year and two years. Whenever a boy is forced to leave school he has these 40 day certificates showing just what he can do to hand to a prospective employer.

Plans for individual school gardens in Des Moines, Iowa, are under way at three schools. The plowing and plotting have been done this fall ready for early spring planting.

Shop mathematics with individual instruction is given a prominent place in the evening school work at the Saunders Trade School of Yonkers, New York. A question-box is provided for problems to be worked out for the benefit of the whole class.

The Philadelphia Board of Education voted, in November, to establish, as an integral part of the public school system, a Department of Vocational Education and Guidance. This will mean a great deal to the educational life of Philadelphia, since the situation was thoroughly studied before this decision was

reached, and the Board has determined to make the work of the department broad and comprehensive, including all of the best features developed successfully in other cities.

Apprentice schools will be established in the following places in Pennsylvania by the extension department of the State College in accordance with the new vocational law: Erie, Kane, Dubois, Reading, Allentown, Norristown, Lancaster, York, and Harrisburg. Schools have already been arranged at Williamsport and Philadelphia.

Dayton, Ohio, has a vocational guidance bureau, established in November, which is emphasizing the work of placement, and investigation of industries.

A feature of the management of the Boardman Trade School in New Haven is a series of meetings with masters and workmen in each trade taught at the school. In these meetings the workmen discuss with the school authorities the needs of their particular trade, its history and present practice.

An evening school for carpenters and apprentices has been opened in Pawtucket, Rhode Island, under the management of the Carpenter's District Council and affiliated local unions. Instruction will be given in house construction by various foremen in the city.

A department of vocational guidance has been organized at Wellesley College by the graduate council. The council has secured the services of Miss Florence Jackson, director of the appointment bureau of the Women's Educational and Industrial Union of Boston, to give advice to undergraduates as to vocations. The council will conduct other work also in the nature of vocational guidance.

(Continued on p. VI.)

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BREVITIES—(*Continued from p. IV.*)

The Waverly, New York, industrial school for boys has entered on its fourth year of work. Courses are now given in wood-turning, pattern-making, cabinet-making, plumbing, electrical wiring and forging. All courses are correlated with mechanical drawing. The course is two years in length and is open to students who have passed the sixth grade and who are at least fourteen years of age. Fifty-five boys were enrolled last year. Leon H. Beach is director and is assisted this year by J. E. Waldron.

Chicago's Vocational Art and Industrial Federation held a convention in the latter part of November, which was attended by many delegates from outside of the state. Five main subjects were discussed during the conference, agriculture, manufacturing, commerce, American industries, and commerce.

The evening industrial school of the Newark, New Jersey, Boys' Industrial School, is meeting with success in its relations with organized labor. In October a committee of five members of the Plumber's Local, No. 24, visited the school and expressed satisfaction with the work in plumbing and their willingness to cooperate in sending apprentices from their trade to the school. The Joint District Council of the Brotherhood of Carpenters and Joiners has consented to use its influence in having its apprentices attend the school. The Executive Committee of Newark Typographical Union, No. 103, visited the school in November and has decided to require all registered apprentices to attend the class in printing during the first two years of their apprenticeship period. James E. Dougan is principal of the school in Newark.

The Bridgeport, Connecticut, Y. M. C. A. has a vocation bureau with the following organization: first, there is the vocational secretary who sees each applicant for assistance, and after study of the apparent

characteristics and history of the young man, assigns him to one of six consulting secretaries; after consulting with one of these secretaries the young man meets one of the vocational advisors, who are local business and professional men of high standing, possessed of expert knowledge of their respective businesses or professions. Thus the applicant to the bureau gets the benefit of varied expert opinions on his special case.

An evening industrial school has been organized in Lawrence, Massachusetts, with W. A. Webb as principal.

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(Continued on p. XIII.)

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BREVITIES—(Continued from p. VI.)

Fort Wayne, Indiana, has a vocational school under the new law. Five teachers are employed, two in charge of the academic work, and three in charge of industrial subjects, sewing, cooking and carpentry. W. E. Gordon is principal.

Tennessee passed a law in 1913, encouraging the teaching of agriculture in high schools of the first class, and providing state aid up to \$1,500 for any one school.

The Wadleigh High School in New York City has a "Home-Craft" course of study which is a very interesting evidence of the new point of view of education and of the new dignity pertaining to the profession of home-making. Such subjects as the "history of women's work", "essentials of conduct", "household design and decoration" are a novelty in the high school curriculum.

The Minnesota State Art Society has achieved a remarkable work in securing and offering to the farmers of the state plans for a "model farm-home". The plans are the result of a competition. Farmers served on the jury of awards. The architects competing turned their plans over to the State Art Society for immediate use in meeting farm home conditions. The plans of the "model farm-home" may be had at a very low fee, covering the cost only. Information concerning the whole idea and plan may be obtained of Maurice I. Flagg, director of the Society, at St. Paul.

Meyer Bloomfield is conducting a course of lectures on vocational guidance at Brown University this winter.

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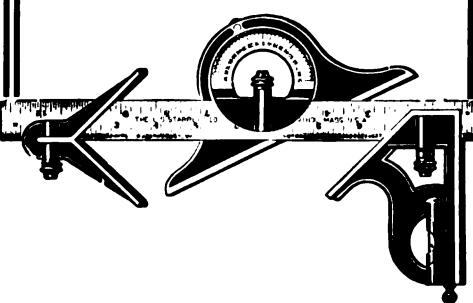
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do it, and how soon he can get it done." From an article on
MANUAL AND VOCATIONAL EDUCATION
by John W. Curtis in the December number of the

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the educational aims and the work of the Memphis Vocational
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BREVITIES

The Minneapolis school board has a new advisory committee of fifteen members who are to study the local conditions of industry and the opportunities for young people in the industries. The committee will also recommend to the school board such improvements in vocational directions in the schools as the investigation seems to make advisable.

California has taken an important forward step in the direction of vocational training by creating the position of commissioner of vocational education in the state department. Edwin R. Snyder has been elected to the position at a salary of \$4000. Mr. Snyder is a graduate of Leland Stanford and Columbia universities, and has been superintending the work of the Santa Barbara schools.

A two days' convention was held in Waterbury, Connecticut, January 29, to discuss problems of vocational education. The meeting was under the auspices of the local chamber of commerce, the local board of education, and the Consumer's League of Connecticut. Professor Herman Schneider, Howell Cheney, W. Stanwood Field, Wesley O'Leary, Charles A. Prosser, Stanley H. Holmes, A. E. Dodd, and Miss Isabel Ely Lord were speakers at the convention.

William L. Anderson, of the Dorchester, Massachusetts, high school, has been appointed assistant to the director of evening and continuation schools of Boston. Mr. Anderson's work will be the organization of continuation classes.

The new child labor law in Massachusetts forbids the employment of children under sixteen years of age during school hours. The compulsory education law at present demands attendance up to the age of fourteen. This leaves the children who have already left school and are not yet sixteen with nothing to do. Various cities are meeting the needs of this group by organizing industrial classes at once.

Quincy, Massachusetts, is to have a full-time industrial school in addition to the part-time school now in operation. The full-time school

will take care of the boys from 14 to 16 years of age and will give them trade-preparatory training up to the time that they will be eligible to the part-time course. At present the carpenters' and joiners' trade and electrical trades, only, will be attempted. Fifty per cent of the school time will be devoted to shop work.

The Hartford, Connecticut, school committee voted to establish a continuation class for shop girls in connection with the high school. The class will enrol about twenty-five girls. W. C. Holden is in charge.

A school of horticulture for women has been established at Ambler, Pennsylvania, by a group of women. The school trains for landscape gardening, fruit and flower growing, poultry raising, bee-keeping, and other occupations connected with the soil. The school has seventy acres of land, fifty being in use as the school farm.

Evening classes in pattern-making and machine shop practice were opened in January at the State Normal School in Albany, New York. Evening classes for women were opened at the high school.

The executive committee of the Missouri State Teachers' Association passed resolutions strongly favoring more industrial and agricultural training in the public schools.

A course in salesmanship is the newest feature in the public schools of Lafayette, Indiana. It is hoped that instruction will raise the efficiency of department store clerks and hence raise the scale of wages.

The latest development in agricultural education in Massachusetts is the proposal to teach agriculture to families as well as individuals. The State Board of Education has been investigating the subject at the request of the legislature and has recommended certain tentative experiments, including the extension of instruction at the state-aided agricultural high schools to include families in the surrounding districts.

Continued on p. VI.

THE STOUT INSTITUTE

SUMMER SESSION 1914

JULY 27—AUG. 28

MANUAL ARTS COURSES

GENERAL COURSES

Manual Training Theory
Organization of M'l Training
Industrial Economics
Plumbing Theory

DRAWING

Elementary Mech'l Drawing
Projection Drawing
Professional Drawing
Introductory Drawing
Elementary Machine Drafting
Advanced Machine Drafting
Elementary Archit'l Drafting
Advanced Archit'l Drafting
Architectural Details
Archit'l Drafting Practice
Pencil Sketching
Elementary Design
Shop Design
Interior Decoration

METAL WORK

Elementary Forging
Agricultural Forging
Professional Forging
Tool Smithing
Art Smithing
El. Machine Shop Practice
Adv. Machine Shop Practice
Millwrighting
Foundry Practice
Saw Filing
Hammered Copper Work
Jewelry and Silver Work

WOOD WORK

Elementary Woodwork
Joinery
Elementary Cabinet Making
Table Construction
Case Construction
Mill Work
Veneering
Elementary Wood Turning

Advanced Wood Turning
Carpentry Construction
Pattern Making

Elementary Wood Finishing
French Polishing
Varnishing and Rubbing

PHYSICAL TRAINING

Gymnastics
Swimming
Athletics
Public School Physical Training

OTHER COURSES

Primary Handwork
Clay Modeling
Pottery Making
Elementary Bricklaying
Advanced Bricklaying
Cement Work
Elementary Printing
Advanced Printing
Lettering and Sign Painting

HOUSEHOLD ARTS COURSES

DOMESTIC ART

Plain Sewing
Model Sewing
Art Needlework
Millinery
Dressmaking
Cutting and Fitting
Costume Design
Textiles

FOODS AND COOKERY

Food Study I

Food Study II
Elementary Cooking I
Elementary Cooking II
Advanced Cooking
Dietetics

OTHER COURSES

Org'z'n of Domestic Economy
Household Management
Home Nursing
Home and Social Economics I
Home and Social Economics II
Home and Social Economics III
Institutional Administration

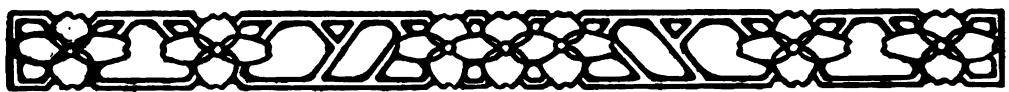
APPLIED SCIENCE

General Chemistry
Food Chemistry
Chemistry of Nutrition
Household Chemistry

The courses are planned to meet the needs of teachers of the manual and domestic arts who desire additional training in special lines of work; superintendents and principals of public schools wishing to study improved plans of organization and management of manual training and domestic art and science in public schools; grade teachers wanting instruction in cooking, sewing, and elementary construction work; teachers who may be required in addition to their other work, to take charge of physical training and athletics in the grades and high school; persons who may be interested in a study of the family as an institution, and of its various members, their relation to each other and to society; those interested in the domestic management of public institutions; prospective students in the regular courses of the Stout Institute; persons desirous of gaining practical experience in various forms of crafts work. Special attention given to the needs of teachers of hand work in continuation schools.

For detailed information address:

L. D. HARVEY, Pres., THE STOUT INSTITUTE, Menomonie, Wis.



BREVITIES—(*Continued from p. IV.*)

In its first three months of existence the girls' vocational school in New Orleans was able to meet all expenses and had a balance on hand of \$112.50.

The Church of the Latter Day Saints in Salt Lake City has an active and well-organized committee on vocations and industries, whose business it is to counsel boys from 14 to 20 years of age in regard to their life work. The cooperation of parents and teachers has been secured to further increase the value of the work being done.

Vermont has had an educational commission at work investigating conditions and needs in that state. The first recommendation in the commissioner's report is that the state should recognize as its immediate and supreme duty the reorganization of elementary and secondary education, including vocational training.

The trade school of Worcester, Massachusetts, shows an increased enrolment of 75 per cent for this year. The evening classes also have been very well attended. A new building or annex for the boys' school was completed in September. A new building for the girls' work is also needed, as the school is running at full capacity and has a waiting list. Over 700 women were enrolled in the evening classes of the girls' school.

Miss Cleo Murtland, in charge of women's work for the National Society for the Promotion of Industrial Education, has been making a survey of Grand Rapids, Michigan, with regard to vocational opportunities for girls.

An advanced course in dressmaking and designing has been opened at the State Trade School in Bridgeport, Connecticut. Local dressmakers and graduates of the night dressmaking classes only are eligible for entrance.

The vocational guidance committee of Washington, D. C., organized under the joint auspices of the Board of Trade, the Chamber of Commerce, and the Retail Merchants' Association, has decided to establish a permanent voca-

tional guidance bureau. Funds for the maintenance of the bureau will be raised by subscription.

F. J. Trinder, principal of the State Trade School in New Britain, has been appointed assistant to Charles D. Hine, secretary of the State Board of Education of Connecticut.

The New Britain, Connecticut, school authorities have voted to establish two new schools, a prevocational grammar school and a higher vocational school. Sites have been purchased for both schools, and the plans for the prevocational school are already prepared.

Charles W. Sylvester, who has had charge of industrial training in semi-industrial school No. 52, in Indianapolis, Indiana, for several years, has accepted the position of supervisor of industrial training for the Industrial Education Company in the same city.

A branch of the National Congress of Mothers and Parent-Teachers Associations has been organized in connection with the girls' trade school of Worcester, Massachusetts.

A vocational school for boys and young men will soon be organized in Chicago under the auspices of the Central Department Young Men's Christian Association Institute. The course will be two years in length. Arrangements will be made whereby students of the school may work in some business establishment half the day, the other half being spent in the school.

The cooperative plan of industrial education is under consideration for introduction into the schools of Johnston, Pennsylvania.

Vocational guidance in the North High School of Des Moines, Iowa, takes the form of a combination of lectures and essay-writing. Prominent business men deliver lectures to the students during school hours, the students being required to take careful notes during the lectures. These are later discussed fully in the English classes and the important points are again emphasized by the teachers.

Continued on p. XII.

MANUAL TRAINING TEACHERS FOR 1914 WANTED

Many of the best positions for September, 1914, will be reported to us before another issue of this magazine reaches you.

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BREVITIES—(*Continued from p. VI.*)

Sacramento, California, is in the list of cities undertaking a vocational survey for the later use of a vocational guidance committee or bureau in connection with the public schools.

The boys of the Worcester, Massachusetts, Trade School, exchange work for certain manufacturers for new equipment, thus cutting down the expense of new machines. Two shapers were recently acquired by such exchange.

The French Government commissioned Mme. Alice de la Ruelle, who is now in this country, to study vocational schools and methods in the United States. Mme. de la Ruelle is a labor inspector in Paris.

Over 1500 boys and girls will be enrolled in agricultural clubs in Calcasieu Parish in Louisiana this season. The agricultural clubs have had a marked effect on rural life in the parish; farmers are being induced thru their influence to try diversified farming and other new and profitable features of agricultural work.

Des Moines, Iowa, has a vocational school, opened in January, giving work to boys in the sixth, seventh, and eighth grades. R. C. Woolman is acting principal.

The Manhattan Trade School for girls in New York City was unable to admit, because of limited accommodations, 150 girls who applied the first of February.

The trade school, so long desired at Putnam, Connecticut, will be opened finally in May, a building having been leased for the school and the work of fitting and equipment being well under way. Arthur Ferguson has been elected principal.

Boston University has a new course of study, vocational guidance, under the general direction of Meyer Bloomfield.

A \$60,000 vocational school is proposed for Millville, New Jersey. The matter awaits only the results of the annual election.

The Springfield, Massachusetts, vocational school is to have quarters in the Pyncheon Street school building, which the boys are remodeling for the purpose. The entire building is at the service of the vocational school.

Agricultural education was a much-discussed topic at the Maine State Teacher's Association meeting at Bangor in October. Equal interest was displayed in the subject at the meeting of the Colorado Association at Pueblo in November. In fact the association program which fails to consider agricultural education in these days is a rarity.

A trade school for girls has been organized in Louisville, Kentucky. The school will be in session two mornings each week. Dressmaking, millinery, salesmanship, bookkeeping and domestic science will be taught. Miss Emma Grauman is director.

The Arthur Hill Trades School in Saginaw, Michigan, has courses in chemistry and physics applied to trades, under the direction of a graduate engineer, Edward Armstrong, of the State Agricultural College.

A fund of \$3,000,000 for the establishment and maintenance of an industrial school has been bequeathed to the city of Minneapolis in the will of the late W. H. Dunwoody, a prominent flour-miller.

The public library of Providence, Rhode Island, is conducting a course in vocational guidance for boys. Lectures are given and trips of inspection are made to industrial plants. Prominent business men and manufacturers are co-operating in the work.

The National Association of Manufacturers has decided to establish an export trade school, where instruction in foreign banking and allied subjects will be given. The purpose of the school will be to provide better equipment, for foreign representatives of manufacturing concerns.

Continued on p. XIII.

BREVITIES—(Continued from p. XII.)

In South Carolina a bill providing for the establishment and maintenance of textile and industrial schools is now before the legislature. It has already passed the House and has been favorably reported by the Educational committee. Its fate in the Senate will be noted with keen interest as the passage of this bill will mean much in the educational development of South Carolina.

The twenty-first annual meeting of the Western Drawing and Manual Training Association will be held in Milwaukee, May 6th to 9th. The Plankinton Hotel will be the headquarters. The exhibits both educational and commercial will be placed in the arena of the Auditorium. The meetings of the Association will be held in the Convention halls, located in the same building.

Milwaukee is an ideal city for this meeting. It is centrally located, has excellent railroad facilities, an immense building for the exhibits and meetings, and a wonderful educational system, worthy of study and emulation.

The general topic of the program will be "A casting of accounts, educationally, for the Fine and Industrial Arts; a re-statement of the faith that is in us." The program is prepared especially for the younger members. The Round Tables will not be limited to the general topic. Several well known speakers have been engaged, and the meeting promises to be a great success.

The Local Committee, Miss Emily Dorn, Chairman, is making arrangements to place and care for an unusually large exhibit.

The Eastern Art and Manual Training Teachers Association meets in Atlantic City April 9, 10, and 11, 1914. The headquarters will be in the Hotel Holmhurst, and the place of meeting is the Atlantic City High School.

The Michigan Industrial Arts and Science Association met in Kalamazoo, February 19, 20, and 21. The program was largely devoted to vocational education topics with special reference to Michigan conditions.

Industrial art as a subject in New York City high schools is in such favor that additional art teachers are in demand. At least six vacancies are to be filled this spring. A special examination will be held March 23 and 24th at the Board of Education Rooms, New York City. A circular of information regarding the examination may be secured of Dr. James P. Haney, 500 Park Avenue, New York City.

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BREVITIES

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(Continued on p. XI.)



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BREVITIES.

(Continued from p. VI.)

The Farm and Trades School on Thompson's Island in Boston Harbor, celebrated its one hundredth anniversary late in March. This is a private school chartered by the state, and supported by the benefactions of interested Boston people. It is a pioneer in the work of education thru industrial means, farming and manual training having been a part of its curriculum from the very first. Charles H. Bradley has been superintendent of the school since 1888.

Conferences of agricultural teachers, short courses, farmers' clubs, practical farm projects in the manual training shops, characterize the work of vocational training in the Minnesota schools this semester. Teachers of the vocational subjects now have the help and inspiration of a sheet called *The Visitor* issued from the University Farm at St. Paul.

Raymond C. Keoppe has been appointed to a position in the department of vocational education in Rochester, New York. Mr. Keoppe was formerly acting principal of the Rochester Shop School. He directed the industrial and educational survey for the Rochester Chamber of Commerce in 1913.

The bricklaying, plastering, and granolithic work of Hampton Institute is now done entirely by school tradesmen. In one year's work the Hampton students laid 237,816 bricks, constructed 482 square yards of granolithic walks, and put on 4049 square yards of plastering. A Y. M. C. A. building with pillared loggia, a two story frame house with pillared porch all around, and a large barn are recent products of students' work.

Regular Saturday morning trips to manufacturing plants for purposes of demonstration are an established feature of the vocational department of the Rochester, N. Y., schools. The pupils of the department are taken to the business places in groups of ten accompanied by teachers.

Elmer H. Fish, principal of the State Trade School for Boys in Worcester, Mass., has resigned to engage in literary work of a technical character. Mr. Fish's resignation goes into effect September 1st.

(Continued on p. XII.)

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BREVITIES.

(Continued from p. VI.)

The Farm and Trades School on Thompson's Island in Boston Harbor, celebrated its one hundredth anniversary late in March. This is a private school chartered by the state, and supported by the benefactions of interested Boston people. It is a pioneer in the work of education thru industrial means, farming and manual training having been a part of its curriculum from the very first. Charles H. Bradley has been superintendent of the school since 1888.

Conferences of agricultural teachers, short courses, farmers' clubs, practical farm projects in the manual training shops, characterize the work of vocational training in the Minnesota schools this semester. Teachers of the vocational subjects now have the help and inspiration of a sheet called *The Visitor* issued from the University Farm at St. Paul.

Raymond C. Keoppe has been appointed to a position in the department of vocational education in Rochester, New York. Mr. Keoppe was formerly acting principal of the Rochester Shop School. He directed the industrial and educational survey for the Rochester Chamber of Commerce in 1913.

The bricklaying, plastering, and granolithic work of Hampton Institute is now done entirely by school tradesmen. In one year's work the Hampton students laid 237,816 bricks, constructed 482 square yards of granolithic walks, and put on 4049 square yards of plastering. A Y. M. C. A. building with pillared loggia, a two story frame house with pillared porch all around, and a large barn are recent products of students' work.

Regular Saturday morning trips to manufacturing plants for purposes of demonstration are an established feature of the vocational department of the Rochester, N. Y., schools. The pupils of the department are taken to the business places in groups of ten accompanied by teachers.

Elmer H. Fish, principal of the State Trade School for Boys in Worcester, Mass., has resigned to engage in literary work of a technical character. Mr. Fish's resignation goes into effect September 1st.

(Continued on p. XII.)

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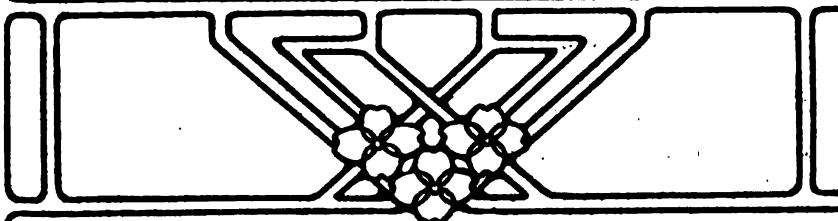
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Vol. III

SEPTEMBER, 1913

No. 1

VOCATIONAL EDUCATION



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PEORIA ILLINOIS

VOCATIONAL EDUCATION

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FOREWORD

WE are fortunate in being able to open Volume III with "A Plea for Practical Education" by a member of the President's cabinet, *Secretary William C. Redfield*, of the Department of Commerce, Washington, D. C., and president of the National Society for the Promotion of Industrial Education. Coming from such a source this plea seems to have special significance. In an unusual degree it is a source of inspiration and confidence for the worker in the field of industrial education.

There is probably no more important question confronting the leaders of the movement for vocational education than the relation of this work to the existing school system. This question is ably discussed in *Professor Dewey's* paper in the May number and in *Dr. Cooley's* reply in this number.

The power of the vocational motive to rejuvenate a literary college is suggested by the Editor in his article on the Mississippi Industrial Institute and College.

The article by *Principal P. C. Stetson*, of the Junior High School, Grand Rapids, Michigan, presents some interesting details from a community that is trying to do some things instead of talking about them.

Especially timely is the article by *Miss Johnson*, Librarian of the Women's Educational and Industrial Union, on the work of that Institution which is now, as heretofore, one of the pioneers in educational work for women.

We believe many readers will find encouragement in our items "Of Current Interest" in this issue.

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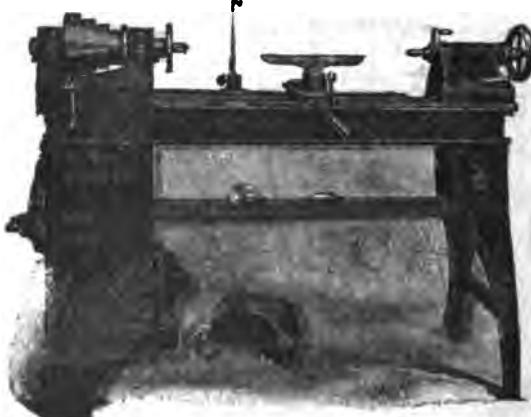
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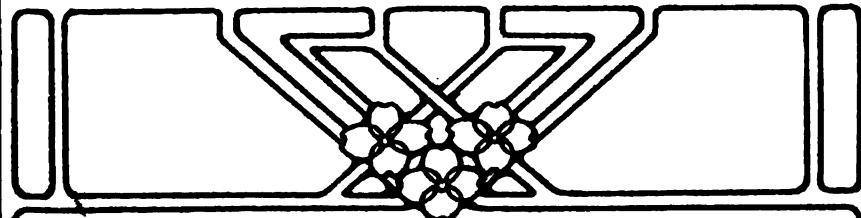
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NOVEMBER, 1913

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VOCATIONAL EDUCATION



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FOREWORD

It is seldom that we have an opportunity to present to our readers such a well balanced number as the present one. Agriculture, the mechanic arts and the art industries are each represented by an article. To these, as usual, are added the editorials and reviews and a goodly number of items of current interest from England and America.

The details of a plan by which a community may study its own educational needs, as outlined by *Mrs. Glenny*, now of Buffalo, New York, will help to answer many questions of policy and procedure that are now being considered in various parts of the country.

The widespread interest in agricultural education makes especially timely the Editorial study of the "Home Project" plan as worked out in Massachusetts.

Methods of teaching pattern-making are to be discussed by *Professor Crawshaw* and *Instructor Dorrans*, Department of Manual Arts, University of Wisconsin, in two articles, the first of which appears in this number.

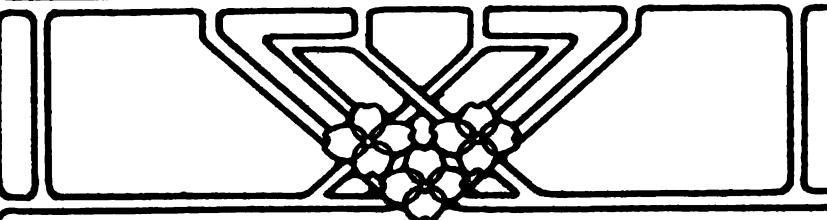
The Editor's article on Newcomb School of Art not only shows how an art school may connect up with industry but also how vocational training may thrive in the midst of a college of literature and science.

The many teachers of academic subjects who are studying the relations of their work to industrial activities will find some suggestions as to procedure in the article by *Mr. Brundage*.

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VOCATIONAL EDUCATION



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FOREWORD

First consideration in this issue has been given to the Grand Rapids meeting of the National Society for the Promotion of Industrial Education and the National Vocational Guidance Association. The report of the former by the Managing Editor gives the gist of important papers and reflects the spirit of the meeting. The report of the latter is given by the secretary of the Vocational Guidance Association, Principal *Jesse B. Davis*, of Grand Rapids. From the papers presented at these meetings we have selected to print in full the valuable study by *Professor Charles R. Richards*, in which he points out the ends to be sought in making a survey of the industries of a community and gives a form of classification for securing the desired result. The paper by *District Superintendent Roberts* is also given because the Chicago experiments would seem to be especially suggestive to other cities. This is due to the working agreements which have been brought about between the labor unions and employers in the effort to solve the problem of apprentice training.

The secondary emphasis in this issue will be found in the items Of Current Interest, which are largely devoted to Agricultural Education. In our next issue this department will give some attention to corporation schools.

To these we add the concluding installment of *Mrs. Glenay's* timely paper, and the brief article by *Mr. Mathewson* on the teaching of English Composition in which he gives examples and some unusually excellent photographs that suggest one way to make even the traditional school subjects vital and full of interest.

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FOREWORD

English educational authorities are dealing with the problem of "Prevocational Education," for the period from 14 to 16 years of age, in a very practical way. *Mr. Thompson's* article makes some of the methods employed available for American readers.

Mr. Goodwin's article offers practical suggestions to principals and teachers who want something worth while in vocational guidance. *Principal Gilbert's* article is a brief account of the work done in evening industrial classes in an important manufacturing city.

The authors of the fourth article are instructors in electrical construction at the Philadelphia Evening Trades School, No. 2. At our request they have selected a few of the problems in their course which appeal most strongly to their pupils and have presented them here for the benefit of other teachers.

Dr. Payne's article on "Commercial Education in Germany" seems to be especially timely because of the growing interest in higher commercial education. This will be followed later by another article on the same general subject, treating certain facts more in detail.

The fifth article in this issue, by the *Managing Editor*, summarizes what has been done by the different states in the administration of state aid. It tells what conclusions have been reached as a result of several conferences between state directors of vocational education.

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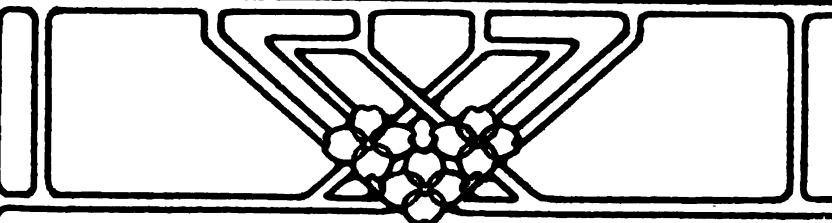
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FOREWORD

THREE articles in this number discuss the relations of the school and the state to employment. First is given Mr. Bloomfield's "School and Employment," which is an excellent outline of the principles which should guide the public school in its dealing with this problem. This article is the final chapter in a book on "The School and the Start in Life," to be published by the United States Bureau of Education. The article "State Control of Entrance to the Industries," by Mr. Selvidge presents forcibly the responsibility which rests on the state, thru the school, in connection with the employment of young people. Mr. Leavitt's article on "Cooperation of the Schools in Reducing Child Labor," which shows still another phase of the subject, is full of convincing truths and drives home again the point of the responsibility of the school toward the working child.

The remaining four articles give a variety of material of broad interest. Two types of schools are described in detail, "The New Hampshire Type of Rural High School," by Deputy State Commissioner H. A. Brown, and "An Endowed Trade School in a Large City," by Principal Lewis Gustafson of the David Ranken Junior School of Mechanical Trades. E. George Payne presents the second article in the group of studies of German school systems which are proving so helpful for comparative purposes. The report of the Richmond Convention of the Department of Superintendence by the *Managing Editor* should receive the most careful consideration by our readers, since it presents the main points of probably the most important discussion on the subject of vocational education which has so far taken place.

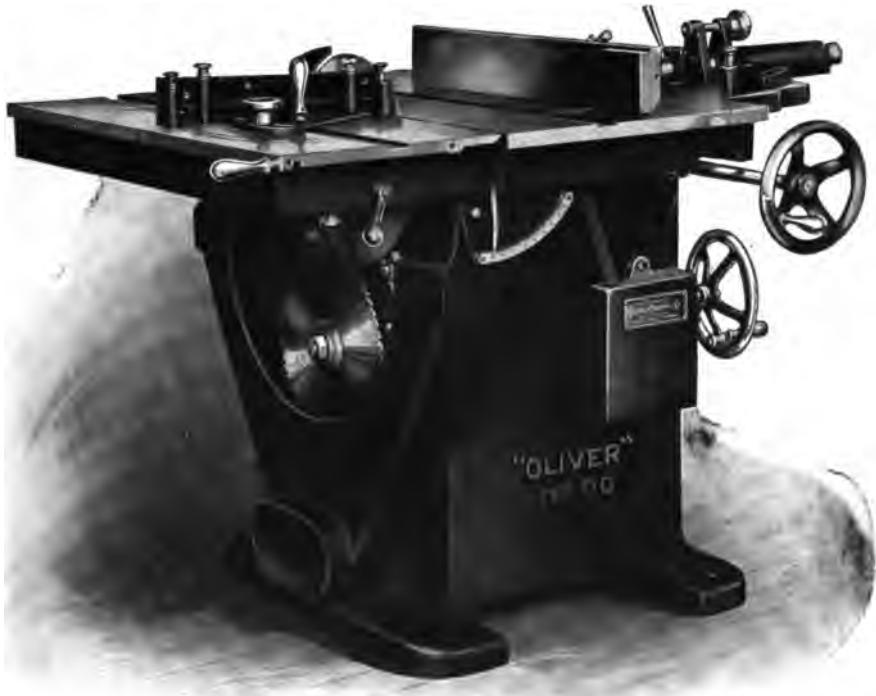
An announcement of importance to subscribers will be found on pages II and III.

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Beginning with September, 1914, VOCATIONAL EDUCATION will be combined with the MANUAL TRAINING MAGAZINE to make a strong monthly publication. The considerations which have led to this important action are the following:

- 1.—Many of our subscribers find both magazines indispensable in their work.
- 2.—The demand for a monthly magazine began to make itself felt long ago, and is becoming more insistent all the time.
3. A voluminous correspondence, careful personal inquiries in various parts of the country, and our own painstaking study of current educational problems and tendencies, unite in convincing us that:
 - a. Vocational education and public school work in the manual arts are two closely related phases of the great problem of education, rather than two sharply differentiated or antagonistic fields, and that the successful development of each demands sympathetic correlation with the other.
 - b. The great force of workers in the manual arts field must be relied upon to take a share of the leadership in the development of the new field, and for this reason, as well as in the interests of a proper outlook for their own work, any magazine of professional ideals for manual training teachers must bring to them the latest and best thought in vocational education.
 - c. On the other hand, those who would be leaders in the new vocational education movement are doomed to certain failure if they neglect a sympathetic interest in and command of the ideals, purposes, evolution, and achievements of the manual arts field.
- 4.—During the past three years we have published a good deal of material which would have been equally appropriate in

either magazine; to whatever extent the two subscription lists were not identical we were obliged to deprive some readers of helpful suggestions.

5.—The support given to the two bi-monthly magazines side by side, at the combined subscription rate of \$3, justifies our confidence in the wisdom of a single strong monthly magazine of the highest professional standards, at \$2, so that we feel that we are about to realize our long-cherished ambition for a monthly magazine devoted to **MANUAL TRAINING AND VOCATIONAL EDUCATION** that shall be more indispensable than ever.

VOCATIONAL EDUCATION now numbers among its active friends and supporters city superintendents of schools, presidents of colleges and universities, principals and directors of vocational schools, supervisors of special work, representatives of State Departments of Public Instruction having administrative responsibility for vocational education, the officers of the National Society for the Promotion of Industrial Education and other organizations, leaders of organized labor, and librarians of school and public libraries in all parts of the country. These men and women regard the magazine as an indispensable aid to the prosecution of their work and are constantly referring to it as essentially the official organ of the movement. The teachers who are "on the job" find it definitely and practically helpful in their work. The combined magazine will be all this and more because it will publish more material of the same high class and cover the allied field of manual training which at many points overlaps the field of vocational education.

The subscription price of the combined journals will be \$2.00, foreign \$2.50. Until June 20th we will enter subscriptions accompanied by the remittance for the present price of a single journal, namely \$1.50, foreign, \$1.75. Send your subscription order now.

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Bulletin No. 19.—The Report on the Selection and Training of Teachers for State-Aided Industrial Schools for Boys and Men.
What Chambers of Commerce Can Do for Vocational Education, Alvin E. Dodd, with the collaboration of C. A. Prosser.
How Shall We Study the Industries for the Purpose of Vocational Education, C. R. Richards.
The Administration of State Aid for Vocational Education. Report of a Series of Conferences of State Officials under Auspices of National Society, Wm. T. Bawden.
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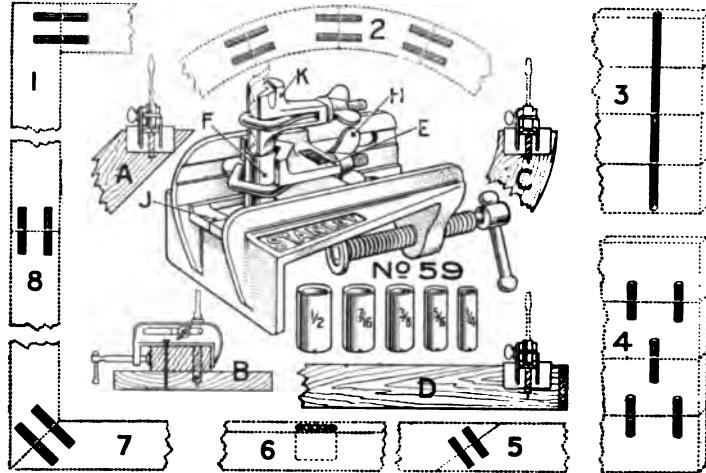
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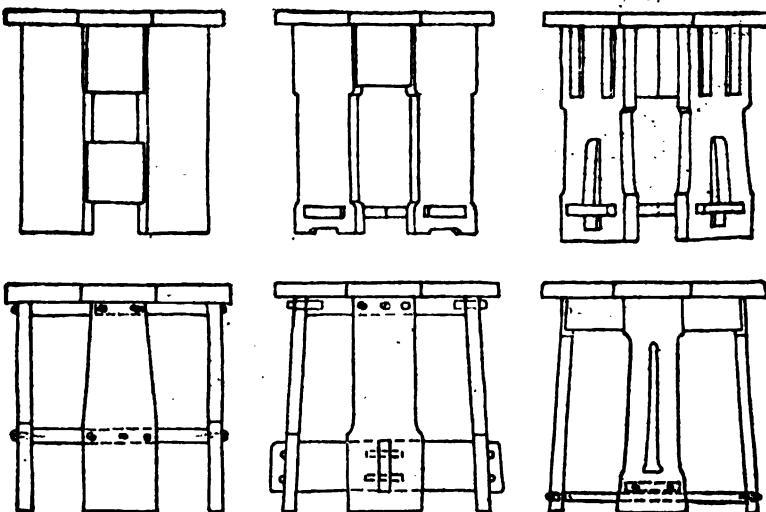
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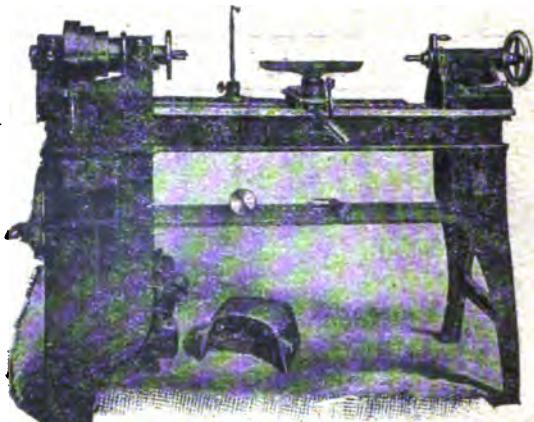
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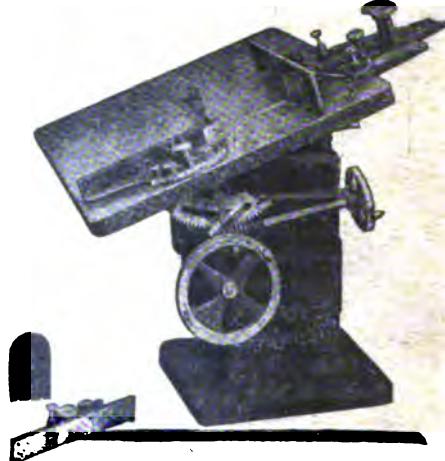
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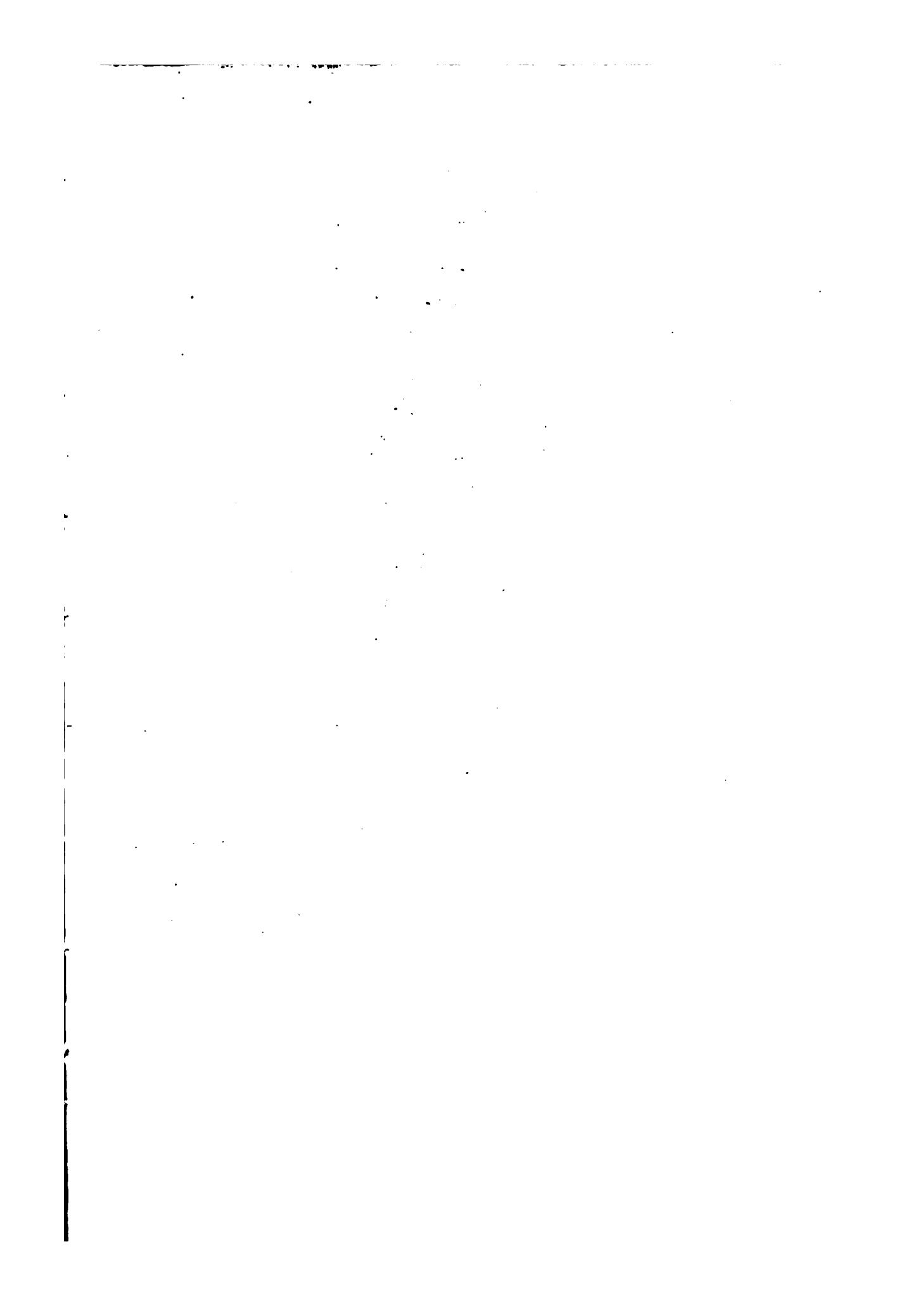
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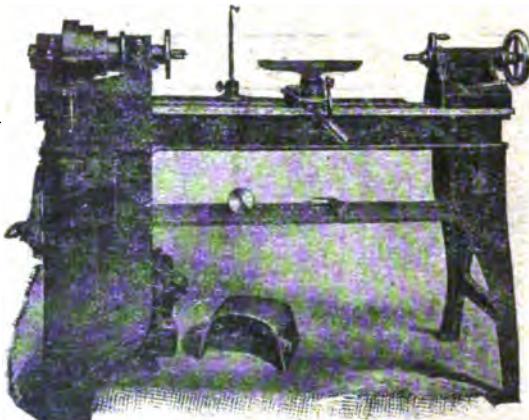
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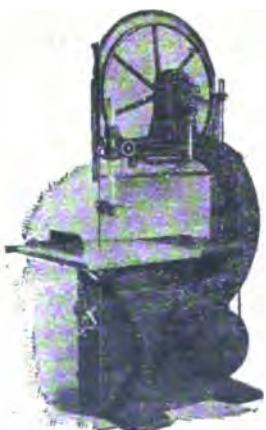
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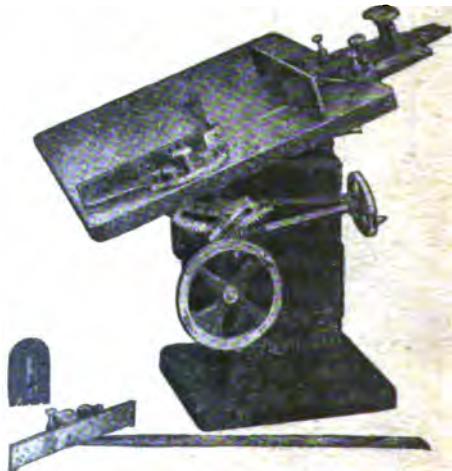
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